STUDY ON COST STRUCTURE AND STAFF UTILIZATION OF NSDP CLINICS

Volume 1: Analytical Report

Abul Barkat
Avijit Poddar, Murtaza Majid, Matiur Rahman,
Golam Mahiyuddin, Jamaluddin Ahmed, Waresul Karim

HDRC **Human Development Research Centre**

Prepared for
NGO Services Delivery Program, NSDP
with funding support from USAID/Dhaka
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Acknowledgments

Analysis of cost structure of individual ESP services by providers using time motion survey is a herculean task. Such a complex and rigorous undertaking in health sector was never ever accomplished in Bangladesh in the past. Secondly, attempt has not been made in the past to work out standard time for key ESP services. This has been another pioneering effort in this study. Therefore, we gratefully acknowledge all the relevant staff members of Population Health and Nutrition Team, USAID/Dhaka, NGO Service Delivery Program (NSDP/Dhaka), and Research Triangle Institute/USA for their trust on us in assigning the responsibility to conduct this methodologically innovative, scientifically rigorous and high-utility research study.

We gratefully acknowledge Dr. Kanta Jamil and Mr. Mosleh Uddin, Population Health and Nutrition Team, USAID/Dhaka for their professional supports at all the stages of the study, especially in the process of analysis of the study findings.

We gratefully acknowledge Dr. Dennis NW Chao, Research Triangle Institute, who so diligently and professionally coordinated all the critical steps of the research. We are grateful to Dr. Nanda Kumar, RTI consultant to the study, for his professional support extended in designing and finalizing the instruments, and in providing critical inputs towards the cost estimation methodology.

We are immensely indebted to all the staff members of NSDP, particularly to Dr. Robert Timmons, Mr. David Weiler, Mr. Waliul Islam, Ms. Atia Hossain and Dr. Pulok Mutsuddy for their unstinted support and cooperation extended through out the research. Ms. Atia Hossain and Dr. Pulok Mutsuddy's efforts in organizing the field data collection and in obtaining all relevant secondary information has helped us a lot in expediting the research process. We are grateful to them.

We are highly indebted to all relevant staff members of sample PNGOs for their being with us in the field and assistance provided in easing the complex data collection process in the study.

We gratefully acknowledge the doctors and paramedics who participated in the Delphi Exercise to come up with the standard unit time by ESP services.

The study would not have been completed without the keen interest and support of the NSDP customers who participated in the study. We thank them all.

We especially acknowledge all the staff involved in fieldwork and data management for their very hard work and team spirit. We express our thanks to all support staff of Human Development Research Centre (HDRC) for their maximum effort in the study.

Abul Barkat, Ph.D
Principal Investigator.

Abbreviations

AFTM	Assistant Field Team Manager
ANC	Antenatal Care
ARI	Acute Respiratory Infection
CDD	Control of Diarrhoeal Diseases
CT	Contact time
DCI	Data Collection Instrument
DOTS	Directly Observed Treatment Schedule
DS	Direct service
DT	Downtime
EPI	Expanded Programme on Immunization
ESP	Essential Services Package
FP	Family Planning
FTE	Full Time Equivalent
FTM	Field Team Manager
GOB	Government of Bangladesh
HDRC	Human Development Research Centre
IUD	Intra Uterine Device
LCC	Limited Curative Care
NSDP	NGO Service Delivery Program
OH	Overhead
ORT	Oral Rehydration Therapy
OT	Operation Theatre
PAC	Post Abortion Care
PFA	Patient flow analysis
PI	Providers interview
PLTM	Permanent and Longer Acting Method
PNC	Postnatal Care
PSU	Primary Sampling Unit
QCO	Quality Control Officer
RTI	Research Triangle Institute
SS	Support service
ST	Self-administered time sheets
TB	Tuberculosis
TM	Time-motion
TMO	Time Motion Observer
TT	Tetanus Toxoid
USAID	United States Agency for International Development

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CHAPTER ONE
INTRODUCTION AND RATIONALE OF THE STUDY

1.1. Introduction

In recent years, the government, donor agencies and others in the international health research community had been focusing their interests and increased attention on different cost aspects of providing health and population services in developing countries (Janowitz 1993, Bratt *et.al* 1999, Bryant *et.al* 1995). Several studies have been conducted and findings reported in extant literature (Frere *et.al* 1998, Mawajdeh *et.al* 2001). In Bangladesh, Health Economics Project took the initiative to conduct the first study of its kind titled "Activity and cost analysis of essential health and family planning services" in 1999 (Barkat *et.al.* 1999). Later, in 2000, the Policy Project explored costing related methodological aspects of Essential Services Package (ESP) with funding from USAID (Barkat *et.al.* 2000).

In Bangladesh, a large number of young women enter into the reproductive age continuum at a faster pace than the resources that the country could mobilize for offering services in reproductive health, child health and communicable diseases. In this perspective the current initiative of NGO Service Delivery Program (NSDP) to conduct an in-depth research on cost structure and staff utilization is a high-utility one.

Estimation of unit and average costs of services, assessment of cost structure and degree of staff utilization in offering high quality ESP services are urgently needed to assess efficiency, estimate additional resources for expansion of service coverage, and devise means and ways towards sustainability. Taking into account that NSDP initiative is one of the pioneering ones with the dimensions covered, the results of the study will be of high utility in facilitating the formulation of policies to enhance economic and operational efficiency of the program and sustainability of the service delivery mechanisms including the ones provided by NSDP NGOs.

NGO Service Delivery Program (NSDP) is one of the largest NGO health services delivery network in Bangladesh providing reproductive health and other ESP services in limited course in both urban and rural areas through the *'Smiling Sun'* clinics.

1.2. Rationale

The NSDP service delivery mechanism is the largest ESP delivery system after the one managed by MOHFW in the public sector. It is engaged in providing ESP services in partnership with 37 NGOs (henceforth PNGOs/NSDP NGOs) and covers all administrative districts except the hill districts of Chittagong Division. At present, a total of 317 static clinics and over 8,000 satellite clinics are functioning in both the rural and urban settings under the NSDP PNGOs (See Map).

Barkat *et.al.,* 2003, Assessment of the Skill-mix Requirement of the Personnel for Implementing ESP at Upazila Level and Below, funded by MOHFW, GOB

Barkat *et.al.,* 1999, Activity and cost analysis of essential health and family planning services in Bangladesh, prepared for Health Economics Project, MOHFW

Barkat *et.al.,* 2000, Costing Essential Service Package: An Issue Paper, prepared for presentation at the Workshop on Costing Essential Services Package, sponsored by PRU, MOHFW, and supported by USAID/ Bangladesh and the POLICY Project

Bratt et.al. 1999, A comparison of four approaches for measuring clinicians time use, *Health Policy and Planning*, 14(4): 374-381

Bryant *et. al.,* 1995, Measuring time utilization in rural health centres, *Health and Policy Planning*, 10(4): 415-421

Frere *et.al.,*1998, Costing the Basic Benefits Package in Egypt, Technical Report32. Cairo: Partnership for Health Reform

Janowitz B., 1993, Why Do Projections of the Cost of Family Planning Differ So Widely?, *Studies in Family Planning*, 24(1): 62-65

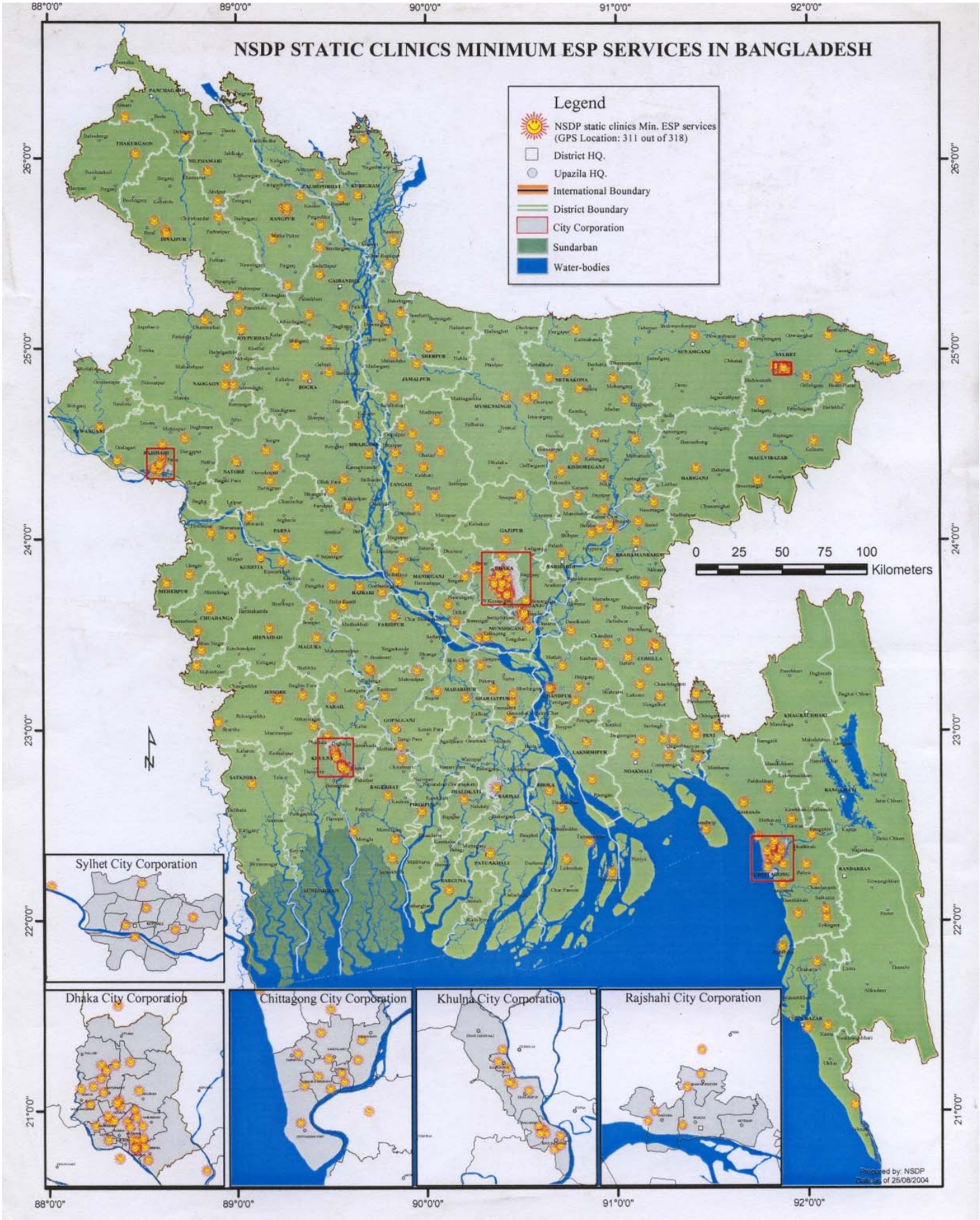
Mawajdeh *et.al.,* 2001, Rationalizing Staffing Patterns and Cost Analysis of Primary Health Services in Jordan, Amman, Primary Health Care Initiatives Project

Both the urban and rural set-ups are providing almost similar nomenclature of health services with the difference that the static clinics in urban setup are managed by doctors and paramedics, while the rural set-ups primarily are managed by paramedics alone. The static clinics of the NGOs in urban areas are generally staffed with clinic manager (medical), paramedic, counselor, laboratory technician, senior service promoter, service promoter. The staff structure in rural areas generally consists of clinic manager (non-medical), paramedics, service promoter, office assistant and clinic aide. In rural set-up the clinic aide performs the function of counselor of urban area. The depot holders work in the community level. Therefore, the NSDP service delivery system using the PNGOs is a complex one – both in terms of staffing and spatial distribution of facilities.

In order to ensure higher efficiency and sustainability of the system it was felt necessary to learn in-depth about the cost structure and staff utilization pattern of the system and their clinics. Here lies the key rationale of the research study.

1.3. Organization of the Report

The report contains two volumes. The first volume provides an overall analysis of Cost Structure and Staff Utilization of NSDP Clinics. This volume has nine chapters, and contains delineation of objective, methodology, findings and policy and program implications. The Second volume contains all tables on cost structure and staff utilization by clinics and providers. While the first volume provides an overall analysis in line with the objectives, the second volume provides all tables by individual clinic and provider which will be of high utility for cost, sustainability and staff planning by individual NGOs and clinics.


NSDP STATIC CLINICS MINIMUM ESP SERVICES IN BANGLADESH
Legend
NSDP static clinics Min. ESP services (GPS Location: 311 out of 318)
District HQ.
Upazila HQ.
International Boundary
District Boundary
City Corporation
Sundarban
Water-bodies
0 25 50 75 100
Kilometers
N
Sylhet City Corporation
Dhaka City Corporation
Chittagong City Corporation
Khulna City Corporation
Rajshahi City Corporation
Prepared by: NSDP
Date: as of 25/08/2004
88°0'0"
89°0'0"
90°0'0"
91°0'0"
92°0'0"
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25°0'0"
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CHAPTER TWO

OBJECTIVES, RESEARCH ISSUES, AND OUTCOME

2.1. Objectives

The **overall objective** of the study is to understand, estimate and analyze cost structure of services delivery and explore the scenarios of staff utilization in NSDP clinics.

The **specific objectives** of the study, in line with the stipulations of the *Terms of Reference,* are as follows:

1. To measure the economic efficiency – in terms of cost of services and staff utilization of the clinics in providing health services;
2. To analyze the underlying factors that determine the economic efficiency – in terms of cost of services and staff utilization – of clinics; and
3. To suggest management changes that could improve economic efficiency in terms of cost and staff utilization.

2.2. Key Research Issues

In line with the *Terms of Reference, t*he following **key research issues** are addressed in the study:

1. Staff utilization pattern by type of staff and clinics (static and satellite) and by locations (urban and rural).
2. Patient (customer) contact time and non-patient time by type of providers and services.
3. Providers downtime scenarios in clinics.
4. Down time and customer flow pattern.
5. Average number of customers served in different service delivery point by provider type.
6. Unit cost of services and its variations by type of service and by clinic by locations.
7. Standardized unit time of services.
8. Staff pattern and staff salary.
9. Possibilities of alternative customer flow patterns.
10. Ways to reduce unit cost in line with standard time by services.
11. Quality of services and cost efficiency.

2.3. Research Outcome

The accompanying research has produced an analytical report on cost structure and staff utilization scenarios at NSDP NGO service delivery facilities, which was the key expected outcome of the study. The report contains an in-depth understanding about the estimation and analysis of cost structure of health services delivery and explored the scenarios of staff utilization in NSDP clinics. The report provides a basis to broaden the understanding about the relationships between various factors and/or aspects of cost and staff time utilization. The study findings presented in the report will be of high utility for the NSDP NGOs to improve their efficiency and to assist in strengthening the status of their financial sustainability. Furthermore, the findings and recommendations pertaining to different dimensions of customer flow particularly during the peak hours and their management including ways and means of organizing alternative client-flow are designed to enable the NSDP NGOs to reorganize and restructure their efforts towards provisioning of improved quality health services with reasonable cost in future.

CHAPTER THREE

METHODOLOGY

This chapter highlights methodological issues, conceptual and operational definitions, sample and study design, variables encountered, content of data collection formats, cost and time estimation issues, and study implementation steps.

3.1. Concepts and Operational Definitions

The concepts and operational definitions used in the study are presented in this section. Cost has been measured in terms of five components associated with providing services to the customers. These components are: (i) time directly and/or indirectly spent by different categories of staff, (ii) utilization of space, (iii) supplies, (iv) other operational components (including NGO supervision), and (v) capital items. Therefore, understanding the time measurement technique used in the study is important for understanding the methodology adopted in the study.

3.1.1. Time measurement technique

Four approaches are generally used to measure staff time: (i) patient flow analysis, (ii) direct observation of clinicians, (iii) self-report of clinician activities, and (iv) one hybrid technique. Usual techniques and approaches are time-motion (TM), patient flow analysis (PFA), providers interview (PI), self-administered sheets (ST), work-sampling approaches. A brief description about these techniques and the techniques adopted in the study are presented below.

Time-motion (TM) study

A trained observer follows the clinician for the entire shift, recording each and every action. The observer uses a digital wristwatch. A pre-coded form is used to record what the clinician is doing *at that exact moment*. Activity categories include client contacts, work-related administrative duties, personal breaks and time spent waiting for clients.

Patient flow analysis (PFA) supplemented with an interview

PFA is a data collection and analysis package developed by the CDC (CDC 1993). The purpose of PFA is to document patient flow and personnel utilization in clinics. Upon entering the clinic, each client is given a pre-coded form to carry during the visit, and instructed to present the form to all clinic staff with whom the client interacted. Clinic staff use synchronized watches to record the time at the beginning and the end of each contact completed; PFA forms therefore comprise a series of timed client–provider contacts. PFA measures total length of visits, length of individual contacts, and the total amount of time providers spend with clients, but does not provide any information on staff activities when clients are not present. To measure and classify clinician time *not* involving client contact, the PFA can be supplemented with brief structured interviews with clinicians at the end of each shift.

Provider interviews (PI)

Study staff interviews clinicians at the end of each shift to elicit information on time spent on specified activities. The instrument includes questions about client contacts and non-contact activities. Routine program statistics can be used to help clinicians remember which types of visits they had attended that day. For each type of service provided, clinicians are asked to estimate an average duration of client contact. The remainder of the interview is focused on provider activities not related to direct client care, and asked providers to estimate time spent on these activities.

Self-administered timesheets (ST)

All staff including the clinicians are provided with a logbook to record all activities carried out during the shift, regardless of whether the activity is related to client care or not. Providers are asked to fill out the form during the shift, and record a brief description of each activity, the time the activity began, and the time it ends.

Work-sampling approach

In this approach data are collected by determining exactly what a worker is doing each hour at definite intervals. Since it is feasible that an observer can record the activities of several nurses/doctors circumscribed in a unit, it enables to cover enough number of respondents in a specified time. More observations and more closeness among them make a work-sampling approach pretty close to TM continuous observations. Observations are made on random basis of choosing time interval; this allows avoiding systematic bias. It is a less expensive method and it provides sufficiently good results.

The Time Motion for the direct service providers and Staff Interview (for generating data about involvement of staff with static clinic and satellite session activities) methods have been administered in the study for capturing the time directly and/or indirectly spent by different categories of staff in activities associated with provisioning of services to the customers.

3.1.2. Broader activities

Direct service (DS): The direct service activities are those, which are related to the providers direct contact with customer. DS includes: (i) history taking and reviewing of record(s), (ii) physical examination, (iii) pre-procedural preparation and performance of procedure, (iv) writing notes and Prescription, (v) referral, (vi) advice/ instruction and counseling to client, (vii) providing service outside the clinic. For details see the box below.

Overhead (OH): Overhead activities include the following: (i) administrative tasks (includes filling of customer doc., preparation of monthly/annual report, maintenance of petty cash, maintenance of drug stock ledger, supervision and monitoring work, service related telephone call etc.), (ii) meeting and training (includes providing training or attending training, discussion with staff, official visitor attended).

Support service (SS): Support services activities include (i) registration, (ii) doing laboratory test, (iii) dispensing drugs/commodities, (iv) providing support to another provider, and (v) talking with other client.

Provider's Time: Activity by Nature		
	Activities	Nature
01.	Registration	SS
02.	History taking & reviewing of record(s)	DS
03.	Physical examination,	DS
04.	Pre-procedural preparation & Performance of Procedure	DS
05	Writing notes and Prescription, Referral	DS
06	Advice/ Instruction & counseling to client	DS
07	Doing laboratory test	SS
08	Dispensing drugs/ commodities	SS
09	Providing support to another provider	SS
10	Talking with other client	SS
11	Providing service out side the clinic	DS
12	Administrative tasks	OH
13	Meeting & Training	OH
14	Washing hand	OH
15	Waiting for cleaning, work room preparation, equipment preparation	DT
16	Absent on personal ground	DT
17	Arrived late	DT
18	Chatting with other staff	DT
19	Left early	DT
20	Lunch break	DT
21	News paper reading	DT
22	Prayer break	DT
23	Tea or coffee break	DT
24	Telephone call (personal)	DT
25	TV watch	DT
26	Using toilet	DT
27	Visitor attended (personal)	DT
28	Waiting for client	DT
29	Waiting for supplies	DT

DS= direct service, SS= support service, OH= overhead, DT= down time

3.1.3. Service providers specific activity

Following operational definitions of providers activities have been used in the study.

Activity	Definition
Registration (Counselor or Clinic Aide)	Recording of individual notes of the customer on an official book as maintained by the authority. It also includes the distribution of ESP card to customer after filling up of required information. It also includes the time taken to find out ESP card of old customer.
Review records (Clinic Manager and Paramedic)	The time spent by the provider to see the ESP card or any other previous documents (prescription, laboratory report, GOB forms etc.) of the customer relevant to their problem(s).
History (Clinic Manager and Paramedic)	The story that customer tells to the service provider about her/his illness/sufferings through complaint(s) as well as the question(s) of service providers to customers to gain information regarding symptoms or complaints related to problem(s).
NOTE: History and Record reviewing: During customer's history taking and record reviewing (verbal or in writing) any other activity (e.g. counseling or instruction etc.) was also considered as history and record reviewing.	
Physical examination (Clinic Manager and Paramedic)	The term describes the required medical procedure(s) of bodily examination (Inspection, Palpation, Percussion, Auscultation) of the customer including measurement of customer's height and weight.
NOTE : During physical examination any other activity like 'history taking', 'counseling', 'writing notes' etc. were considered as a part of physical examination.	
Pre-procedural preparation	Indicates the interval to prepare a customer or for the preparation of provider and/or relevant items before the performance of a specific procedure.
Procedure	Describe the time interval taken for the activities of provider related to performing any medical intervention like tubectomy, vasectomy, DMPA, Immunization, IUD insertion/removal, norplant implantation/ removal, conduction of delivery, caesarean section, Limited surgical Intervention, pushing injection etc.
NOTE: During pre-procedural and procedural examination any other activities done by provider were considered within the activity of 'pre-procedural and procedural examination'.	
Doing Laboratory test	Pertaining to all activities of provider related to performing any laboratory test(s) available in the respective clinic either for diagnostic or preventive purpose useful to customer's problem.
Prescription	A written direction of the provider regarding use of drug as well as necessary advice/information for the customer specific to the problem(s).
Writing note	Concerning all the written documentations of the providers in response to customer's history, previous records, physical examination and/or laboratory reports for further reference, e.g. ESP card, tally sheet, service register etc.
Referral	If any customer is referred to other related service center, then the time require to prepare the referral paper by the provider was taken as time for referral and to be noted under "Writing notes and Prescription, Referral".
NOTE: During prescription, writing notes, referral writing all activities whether verbal or in writing were considered within the activity of "Writing notes and Prescription, Referral".	
Advice/ Instruction to customer	Includes any verbal direction/suggestion to customers in perspective to their problem(s).

Activity	Definition
Providing support to another provider	Describe the situation of a provider when engaged to help his/her fellow provider in order to offer effective service in addition to his/her own service.
Talking with other customer	Any verbal instruction of the provider to a customer other than the customer dealt at that time.
Taking with attendant	Any verbal communication of the provider to the attendant accompanying child customer other than the customer dealt at that time.
Administrative tasks (Clinic Manager)	At urban clinics, activities of clinic manager responsible for the management of day-to-day affairs of the clinic as per direction of concerned authority. e.g. *a. General* • Filling out patient document • Preparation of monthly/ yearly reports • Maintenance of petty cash book • Maintenance of drug stock ledger • Telephone call (service related) • Other administrative discussion *b. Meeting & Training* • Discussion with staff (service related) • Material (equipment) preparation • Visitor attended (official) *c. Technical* • Supervision and monitoring work • Clinical discussion *d. Liaison, networking*
Cleaning of consultation room (Clinic Aide or Aya)	It includes daily routine cleaning of the provider room and any situation like vomiting of patient, or passage of stool/urine by minors requires immediate cleaning of the provider's room.
Filling out patient document	Concerning activity of the provider to fill out the customer's document like ESP card, IMCI formats etc.
Material (equipment) preparation	It comprise activities required to prepare an equipment before starting a medical or laboratory procedure.
Meeting (service related)	Indicate official discussion with concerned personnel for the sake of services.
Training conduction	Time of the provider spent for participation in any on going or scheduled training program on the day of observation in the respective clinic.
Using toilet	Interval for using toilet by the provider.
Telephone call (service related)	All telephone calls irrespective of incoming or out going related to service or service related discussion with customer.
Visitor attend (official)	It indicates the time of provider spent to attend any official visitor to the clinic on the day of observation.
Washing hand	Time of the provider spent for washing hands after physical examination, handling contaminated matter or before any surgical procedure on the day of observation.
Absent on personal ground	It indicates the time interval of the provider if she/he left the clinic for some time or arrive late without official permission on personal ground on the day of observation.
Chatting with other staff	Talking with other staff not related to service was considered as chatting even if there is no customer in the clinic.
Lunch break	Time interval permitted for taking food for lunch by the respective authority was taken as lunch break.

Activity	Definition
News paper reading	Reading news paper outside the lunch break was considered as time spent for reading news paper even if there in no customer in the clinic.
Prayer break	Prayer out side the lunch break was considered as time taken to perform prayer.
Tea or coffee break	Drinking tea out side the lunch break was considered as time taken for tea or coffee break.
Telephone call (personal)	All telephone calls irrespective of incoming or out going was considered as personal telephone if not appeared service related by the observer on hearing the conversation during the call.
TV watch	Watching of TV by the provider at any time was considered as TV watching even in absence of customer at the clinic.
Visitor attended (personal)	Attending of any visitor (who come not for health or family FP services) other than official was considered as personal visitor.
Waiting for customer	The time spent by the provider when there is no customer to serve in the clinic.
Waiting for supplies	It includes the service interruption time of the provider for any specific item without which she/he could not provide the service.

3.1.4. Providers' time

Contact time (CT) in this study has been defined as the time spent in direct contact for (i) history taking and reviewing of record(s), (ii) physical examination, (iii) pre-procedural preparation and performance of procedure, (iv) writing notes and prescription, (v) referral, and (vi) advice/ instruction and/or counseling to customers. The terms contact time and patient contact time has been used synonymously in this report. The study examined and estimated the patient contact time by services. Patient contact time was measured as the time that direct service provider spends on a patient per visit. Patient contact time was used as a proxy measure of quality of care. The proportion of patient contact time to the direct service provider's total time available was used as measurement of utilization rate of that direct service provider. The utilization rate was assumed as higher, if the direct service provider spent less time on non-patient-related activities, and the observed down time was less. Utilization rates helped to determine the difference between unit cost (the true costs) of services and average cost (expenditures) on services.

Direct service time has been used synonymously as contact time and defined as time spent for providing the direct services (in contact with customers) to the customers.

Support service time has been defined as time spent in support service related activities.

Overhead time has been defined as time spent in activities related to overhead activities.

Non-contact time has been defined as time spent in activities related to support services and overhead (support services time and overhead time combined together).

Down time (DT) for the purpose of this study has been defined as time spent by the providers during working hours for any of following activities: (i) waiting for cleaning, work room preparation, equipment preparation; (ii) absent on personal ground; (iii) arrived late; (iv)chatting with other staff; (v) left early; (vi) lunch break; (vii) news paper reading; (viii) prayer break; (ix) tea or coffee break; (x) telephone call (personal); (xi) TV watch; (xii) using toilet; (xiii) visitor attended (personal); (xiv) waiting for client; and (xv) waiting for supplies.

Unit contact time for a service has been defined as average time spent by a direct service provider in contact with customer for providing one unit of any particular service.

Standardized time has been defined as predetermined time set for providing one unit of any particular service in compliance with quality standards and protocols.

Full time equivalent (FTE) is the assigned amount of working time (8 hours) set equal to unity so that it can be fractioned into parts by service types and type of facility (static, satellite). FTE is a criterion for measuring staff utilization. Upper limit of value of FTE for a staff-member is one and lower limit is zero. In practical situations, FTE ranges between 0 and 1.

3.1.5. Costs: Broad elements

Recurrent cost includes salary cost (including benefits), space cost, cost of clinical supplies and logistics, NGO supervision cost, and other operation cost.

Capital cost is defined, in this study, as the cost of furniture and equipment (used in the sample clinic) estimated on the basis of procurement cost, useful life, annualization factor and economic cost.

All the costs that are actually used to provide a unit of service (time and materials directly or indirectly spent on customers) have been defined as **unit cost of a service.**

Cost of down time includes cost of time and materials, which has been directly or indirectly unutilized (not spent on customers) due down time.

All the costs that are actually needed to provide a unit of service (time and materials directly or indirectly spent on customers) has been defined as **average cost of a service.** Therefore, it includes unit cost (of that service) plus cost associated with down time.

3.1.6. Measuring cost efficiency: Ratio analysis

One of the main objectives of this study was to examine the economic efficiency of NSDP (Smiling Sun) clinics in delivering ESP services. Another important objective was to analyze the underlying factors determining economic efficiency. Several measures were used in the study to address these issues. They include calculating direct contact time, down time by direct service providers, utilization of full time equivalents (FTE), unit cost of services type, cost of down time, and average cost of services.

However, it is to be noted that the individual efficiency and effectiveness measures computed by each of those techniques, in many instances, directly may not be linked to relevant aspects of the service operations. Therefore, it was considered appropriate and necessary to use ratio analysis to supplement the findings revealed by other data analysis techniques. The following ratios, presented in Box 3.1 were computed for each clinic to determine their operational and economic efficiency and cost effectiveness of their services. The ratios were then analyzed by location, clinics, and type of service providers. The ratios provide an insight into a clinic's segmental and overall performance.

Box 3.1: Staff- utilization efficiency ratios

1. Contact time (DS) = $\frac{\text{Total direct contact time (minutes)}}{\text{Total available time (minutes)}}$

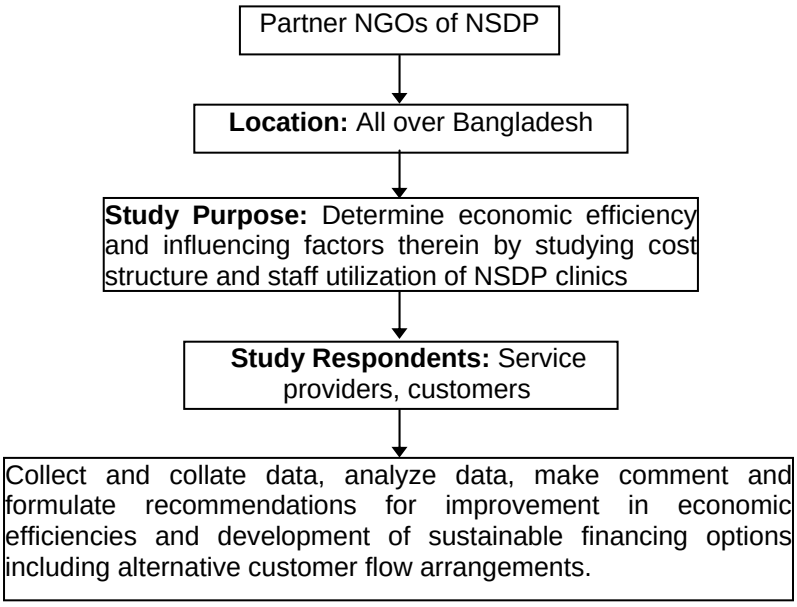
3. Support Service time (SS) = $\frac{\text{Total time spent in SS related activities (minutes)}}{\text{Total available time (minutes)}}$

4 Overhead time (OH) = $\frac{\text{Total time spent in OH related activities (minutes)}}{\text{Total available time (minutes)}}$

7 Down time (DT) = $\frac{\text{Total down time (minutes)}}{\text{Total available time (minutes)}}$

3.2. Study Design

The present exploratory study is aimed at determining economic efficiency of ESP services of NSDP NGOs. A snapshot idea of the study design is depicted below.



3.3. Variables, Indicators, Data Source, Data Collection Methods

Information on the following set of variables for addressing the objectives have been collected.

Variable group	Indicator	Source of information	Method of collecting information
1. Demographic	Age, sex	Customers	Survey
2. Social	Education, profession, occupation, training	Customers	Survey
3. Economic	Income, salary, land-ownership, asset holding	Customers	Survey
4. Activities **A. Clinical** - Consultation - Curative - Growth monitor - Parental - Family planning - Delivery - Surgical - Investigation - Medication **B. Administrative** - Registers - Personal meeting - Supervisor meeting - Community meeting	Time spent, (patient contact time, non-patient time, down-time), cost, number of customer, reasons of visit, changes in visiting time willingness for services, timing and cost	Clinician, customers	Survey, checklist, observation
5. Inventory - Staff - Furniture - Equipment - Stock of commodities and medicines - Manpower - Building	Number, size, valuation, useful life, salary, other expenditure.	Facility	Checklist

3.4. Sample Design: Size, Respondents, Selection Procedure

Ensuring representativeness of sample information was crucial for drawing valid inferences about population in the study. For the present survey different types of sample were needed, such as, sample for clinics, service providers, and customers.

3.4.1. Determination of sample sizes

In order to capture three types of surveys namely, Facility Survey, Time Motion Survey and Customer Survey, two types of Primary Sampling Units (PSUs) were needed and they were Static Clinics PSUs and Satellite Clinics PSUs. Thus, for determining a representative sample for such populations the following statistical formula using needed approximations has been adopted. First of all, guided by the purpose of the research, both static and satellite clinics were divided into their urban and rural components, and then representative sample sizes separately for each segment were determined.

In order to ensure proper representativeness of collected information, a probabilistic sampling strategy was followed. For obtaining valid assessment of population scenarios and reliability of the estimates, a sound statistical formula as given below has been used.

$$n = \frac{Z^2 CV^2}{e^2}$$

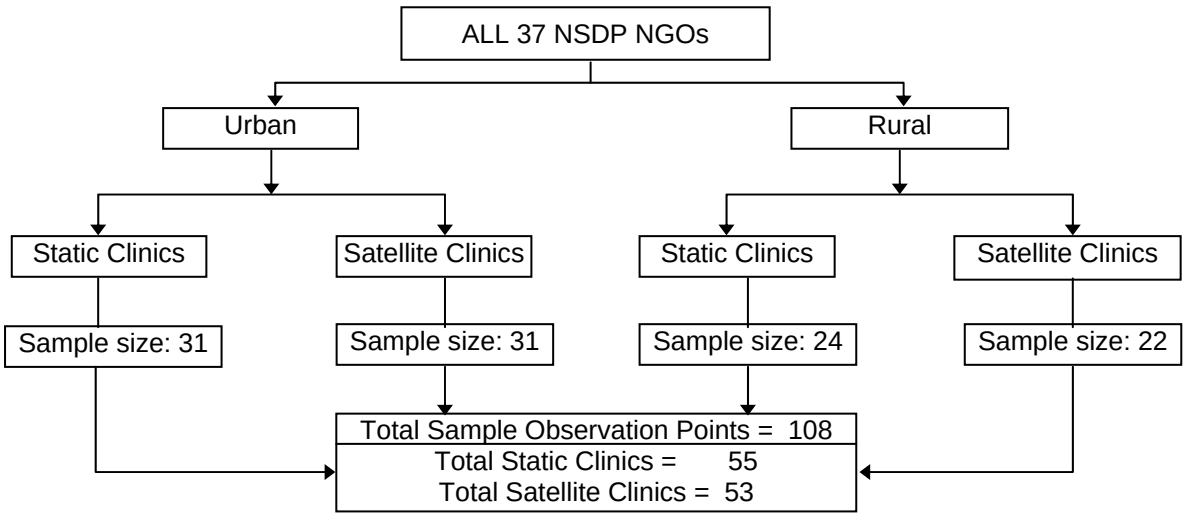
Where

n = sample sizes
CV = Coefficient of variation
e = precision level (3%)
Z = Standard normal variate value at 95% confidence level.

Considering the fact that there are finite number of static (317) and large number of satellite clinics (8000+), appropriate design effects have been used so that diversities can be better captured.

Two-stage random sampling was then adopted. At the first stage, clinics were chosen from which random selection of respondents were made at the second stage. Now, in selecting the allotted number of clinics, Probability Proportionate to Size (PPS) by number of customers served in an PNGO during 2004 have been used. Such information was collected from NSDP MIS data. A picturesque idea of sample observation points is shown in the following schema.

Sample Observation Points (Facility)



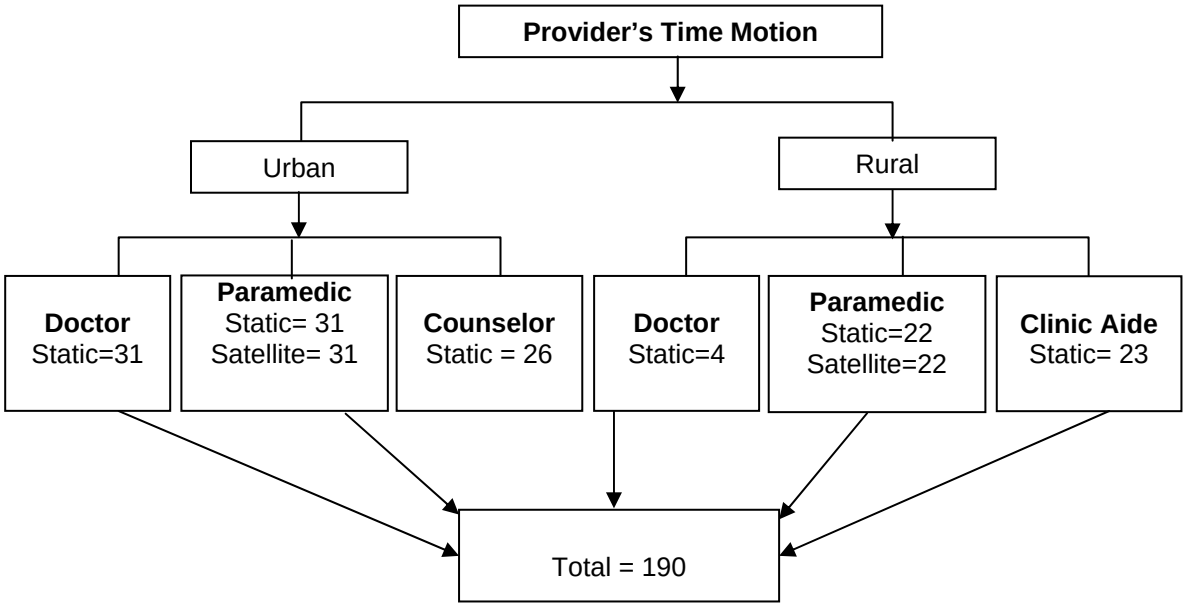
3.4.2. Survey respondents

For this survey there was a combination of respondents. Following categories of respondents were included in the facility survey, time-motion survey, and customer survey.

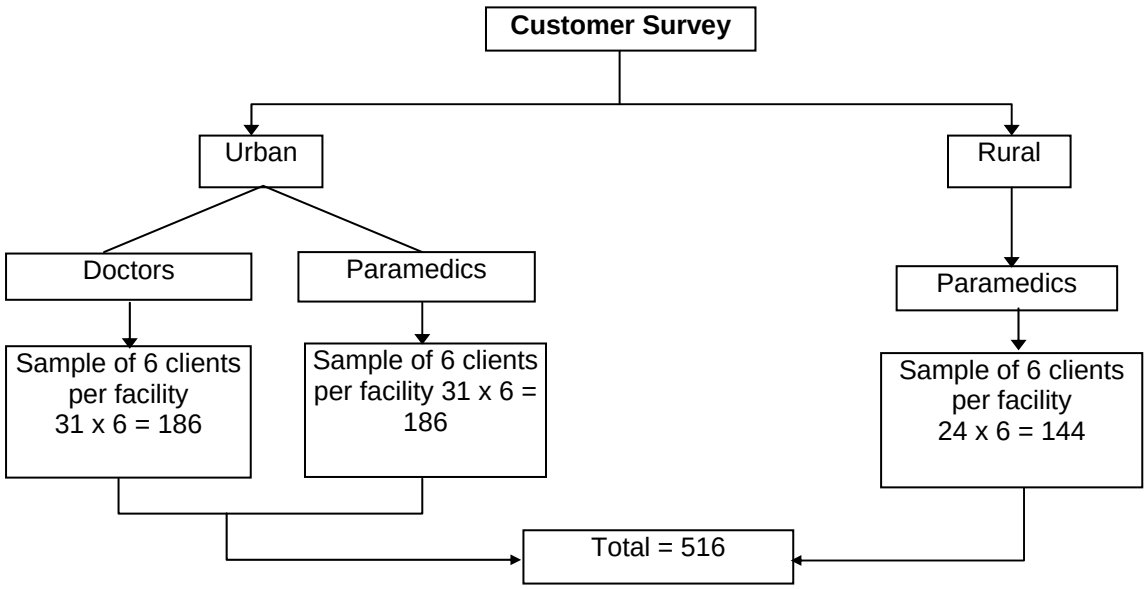
Facility Survey: For inventory purpose, one or two management level personnel per facility were contacted.

Time Motion Survey (TM): It was agreed that 3 clinicians per facility in urban (doctor, paramedic, and counselor) and 2 persons per facility in rural clinics (paramedic, and clinic aide) would be brought under the survey for time-motion observation. It may be mentioned that generally, in urban clinics, doctors, paramedics and counselors offer services, and in rural areas only paramedics and clinic aides do the same. However, some urban clinics were

found where there were no sanctioned and/or available positions of counselor (5 clinics). It was found that doctors were available in 4 rural clinics, counselors in 6 rural clinics were found to provide services instead of clinic aides. In two rural clinics services were provided by doctor and counselor, and in one rural clinic the position of clinic aid/counselor was found vacant. The time motion survey covered these exceptional situations. A snap shot of total number of Time Motion observations by provider conducted in the study is presented below.



Customer survey: Twelve randomly chosen customers per sample facility in urban and six in rural facility were interviewed for customer survey. It is noted that in urban clinics both doctors and paramedics offer various services whereas in rural clinics only paramedics (except in 4 clinics, where doctors are available) offer services.



3.4.3. Sample selection procedure

Sampling units were selected using the procedure mentioned below.

Static Clinic

1. In both rural and urban segments, the initially **determined sample size** was proportionately allocated to the NGOs. Such allocation was based on proportional share of an NGO to total number of static clinics.

2. In selecting the allotted number of static clinics within an NGO, PPS by the number of customers served during 2004 was adopted.

Satellite Clinic

1. In both rural and urban segments, the determined sample sizes of satellite clinics have been proportionately allocated to selected static clinics of NGO as above. One satellite clinic per static clinic was selected.

2. The allotted numbers of satellite clinics were then randomly selected from among those, which were found operational immediately the day after the survey in sample static clinic was over.

It is noted that in rural static clinics, clinic Aids were available in 17 and counselors in 6 clinics. In 5 urban clinics counselors were not available.

An overview of total sample size by type of survey and location (urban/rural) is presented in the Table below:

Type of Survey	Sample Size		
	Urban	Rural	Total
Facility Survey	31	24	55
Time Motion (Activity Sampling) Observation	119	71	190
Customers Survey	372	144	516

3.5. Data Collection Instruments

In order to cover every aspect of health services delivery at NSDP clinics study team has prepared a comprehensive list of instruments to record all details of the services. It is worthwhile to mention here that during the design phase, several contacts were made with the concerned NSDP personnel at different stages before finalizing the instruments. A total of 13 data collection instruments (by types) are used in the study (for details about instruments see Annex 3):

1. Format A1 Staff position, expenditure and income of the clinic
2. Format A2 NGO financial and administrative information
3. Format B1 Clinic space by purposes and fixed asset
4. Format B2 Drugs, logistics and supplies used by clinic
5. Format C1 Time allocation of clinic staff
6. Format C2 NGO HQs staff time allocation
7. Format D Use of medical equipments by services at clinic
8. Format E Customer activity log
9. Format F Provider activity observation

10. Format G Delivery and EOC provider time and customer cost
11. Format H Annual customer flow of clinic
12. Format I Customer survey format
13. Format J Guideline & Check list for bringing out standard time.

The content of each instrument with process of data collection is presented below:

Format A1: Staff position, expenditure and income of the clinic

To prepare the instrument, the NSDP's monthly financial report was adopted. All the required information were collected from the relevant personnel (Clinic Manager, Office Assistant/ Service Promotion Officer) at the respective study clinics by the Field Team Manager (FTM) and Assistant Field Team Manager (AFTM).

Format A2: NGO financial and administrative information

Similarly, this format was too adopted from the NSDP's monthly financial report. A field worker from the each team was assigned to collect the required data from sample NGOs. The format was filled up with information as supplied by the respective NGO.

Format B1: Clinic space by purposes and fixed asset

Using the instrument to collect data, primarily a physical map of the respective clinic was constructed by the FTM. The purpose of the map was to locate the floor space visually, identify them as per utilization and to estimate cost of unit floor space. FTM with the assistance of fellow field personnel completed the format.

Format B2: Drugs, logistics and supplies used by clinic

On the basis of collected information about drugs and logistics used by the NSDP run clinics, this particular format was developed. Further modified after pre-test. For uniformity of inventory process in recording the format, a master list of drugs and logistics was used during data collection. AFTM was responsible to collect the information.

Format C1: Time allocation of clinic staff

This format is used to estimate the distribution of time of the service providers. This distribution was estimated against their direct service and indirect service in the static clinic and satellite clinic. To this effect, individual service provider was interviewed by one of the field personnel as assigned by the FTM in this regard.

Format C2: NGO HQs staff time allocation

Similar to format C1, the format C2 was applied to the NGO staff. As the NGO staffs are not related to direct service of the clinic, here only the proportion of their indirect involvement was recorded on the format. The field worker, assigned for format A2 has also conducted the individual interview of NGO staff member in this regard.

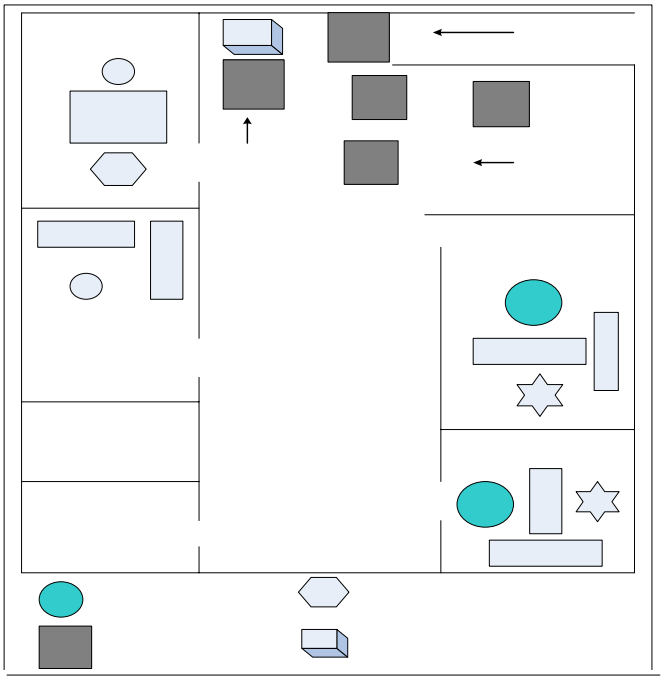
Format D: Use of medical equipments by services at clinic

The format was designed after collection of necessary information about instruments used by the NSDP clinics. A master list of instruments was developed to facilitate the uniformity of data collection process. Information was collected at respective clinic level by the field investigator.

Format E: Customer activity log

This was an exhaustive initiative to record each and every activity of all the customers who came to the particular clinic on the day of observation. Based on the location of clinics i.e. Rural or Urban, a total of 5 to 7 record keepers were employed to record all the activities of the customers from their time of entry to time of exit. Of the 5-7 members, 2 record keeper in case of rural (Paramedic and Clinic Aide) and 3 record keeper in case urban (Medical Officer, Paramedic and Counselor) clinic were posted inside the provider rooms. Among the rest, 3 record keepers in case of rural and 4 record keepers in case of urban clinic were placed in different vital points of the clinic like entry point at main gate, exit point at main gate, waiting room (see diagram below), in between the providers room etc to monitor every steps of customer activity. In fact, it was designed in such a way that no one of the customer had any chance to overlook vigilance of record keeper. To be mentioned here that total number of record keepers was increased to 7 from 5 in rural clinic, and to 9 from 7 in urban clinic during the peak hours of customer flow, under the direction FTM. At each entry, the record keeper(s) posted at the entry point, handed over a 'customer activity log' to each customer after noting down time of entry and required information. Thereafter, every step of her/his movements were monitored and recorded by time by the record keepers posted at inside and out side the service provider's rooms. The record keepers posted inside provider's room noted the entry and exit time of the customer while consultation. At the time of exit, the record keeper(s) at exit point had collected back the 'customer activity log' from the customer and noted down the exit time in each.

A diagrammatic view of data collection (Format E) in a typical Urban clinic set-up



Format F: Provider activity observation, time motion observation

This was an another hard effort of the study team to observe and record the every activity of the service providers on day of observation by trained Medical graduates and Paramedics designated as "Time Motion Observer (TMO)' using the *time motion observation technique*. Here, each provider was observed for the whole day from time of arrival to departure by a trained 'Time Motion Observer' (TMO). In order to cover all the direct service providers of a clinic, usually 2 TMO in a rural clinic and 3 TMO in an urban clinic were engaged. Regardless of customer, all activities were noted down by time in the `time motion observation sheet' using a stopwatch.

The format was designed to get the opinion of the customers about the peak hours of the service facility. Where the customers were enquired specifically about advantages and disadvantages of the peak hours, how the customer flow can be made uniform etc. This format was filled by the In-depth Interviewers on the day of observation and/or next during inventory.

Format I: Customer survey format

This format was designed to explore customers' current logic behind choosing the timing of their visits to NSDP clinic, and also to gather their perception about the possibilities for rearranging customer visits during non-peak hours (i.e. checking with customers the possiblities harmonizing customer flow through out the day).

Format J: Guideline & Check list for bringing out standard time

As for requirement of the study, this format was prepared as an initiative to develop a standard time of different services of NSDP clinics using 'Delphi technique'. The format was distributed to each service provider by hand after explaining the purpose and responses were collected by mail. Two rounds of such exercise was done and then standard unit time for each services was worked out in a consensus building workshop environment.

3.6. Estimation Methodology for Cost and Staff Utilization

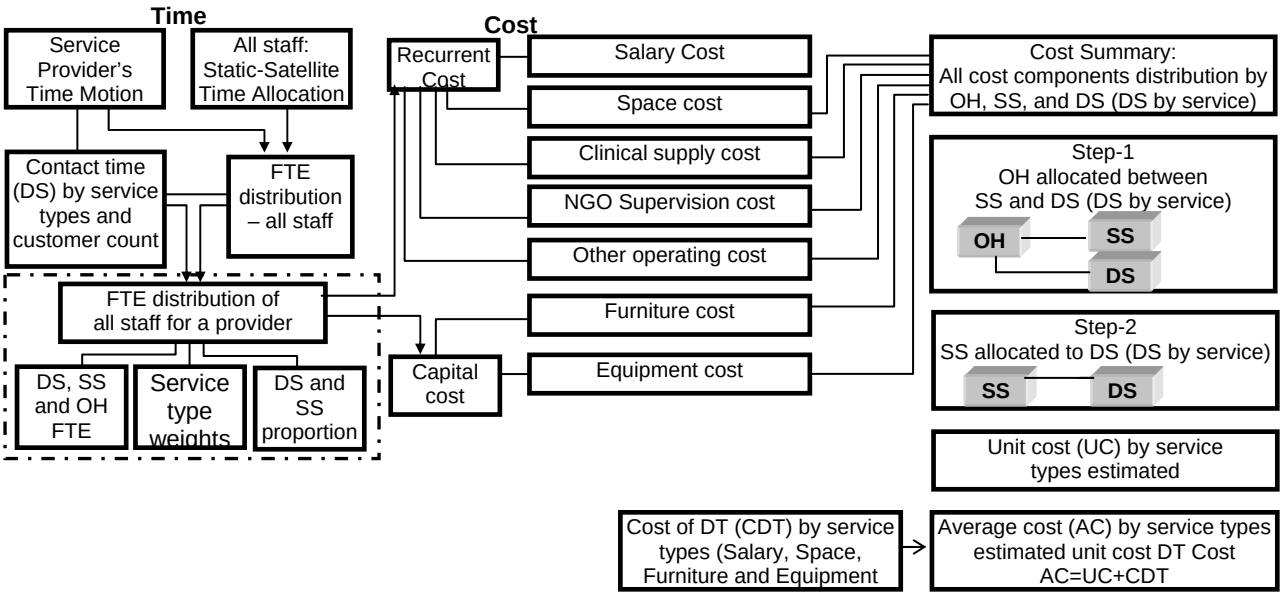
3.6.1. Unit cost, and allocation rules

Two types of costs were estimated: (i) unit cost and (ii) average cost. Unit cost by definition comprises all the costs that were actually used to provide a unit of service (time and materials directly or indirectly spent on customers). Average cost of unit of service is unit cost (of that service) plus cost associated with downtime.

The broad elements of unit cost of service include recurrent cost (personnel cost, cost of space, clinical supplies, drugs and contraceptive supplies, operation cost, NGO supervision cost), and capital cost (furniture, equipment). These elements and sub-elements, where applicable have been allocated by three major cost centers: (i) direct services (DS), (ii) support services (SS), and (iii) overhead services (OH). The cost of direct services (DS) has been further allocated by specific ESP services.

The procedural steps for estimation is presented schematically in Figure 3.1. Formulae used for estimating unit cost, cost of down time, and average cost are presented in Annex 1. The detailed methodology with an example of estimating unit and average costs by services type is delineated in Annex 2.

Figure 3.1: Cost estimation flow chart



It has been found in NSDP clinic (Format F) that the doctor and paramedic provide all types of ESP service, while counselor provides two types of FP services (general FP counseling and pill/condom). Therefore, unit cost of services type in service delivery point is estimated by providers (doctor, paramedic, counselor/clinic aide).

It was also found that not all staff is fully dedicated to static or satellite clinics. The office assistant, lab tech, counselor, aya and guard's staff time is solely dedicated to static clinic. For all other staff, part of their working time is spent for static and the rest is for satellite (Format C1). Therefore, the salaries of varies category of staff has been distributed between static and satellite in accordance with their full time equivalent (FTE) estimated on the basis of either direct observation or time allocation to the service delivery spot (static or satellite) collected through Format C1.

3.6.2. Allocation of space between DS, SS and OH

The total clinic space consists of different specific spaces. Each of these spaces fully and/or partially are used for providing direct services, support services and performing overhead activities or their combination. The rules of allocation of space between DS, OH and SS is depicted in Matrix 1.

Matrix 1: Rules of allocation of space between DS, SS and OH

Space	Rules of allocation
Clinic Manager	• Space attributable to satellite (6%) calculated using involvement data from C1. • Space attributable to static clinic (total – satellite) for doctor is allocated to OH, SS and DS on the basis of their FTE proportion for static. • DS for doctor is fully allocated to services provided by doctor. • OH part of space for doctor's direct services is proportionate to number of customers served by doctor and total number of customers served (18/55). • DS part of space has been further allocated between specific services on the basis of FTE by services provided by doctor
Paramedic	• Paramedic room is allocated between OH, SS and DS on the basis of FTE proportion for the static clinic. • OH part is then reallocated to OH for the customers served by doctor proportionate to their share among all customers (18/55). • SS part is reallocated in the same manner.
Counselor	• Counselor room is allocated and reallocated similarly as the paramedic room.
Laboratory/Lab. technician	• Lab space is fully allocated to SS. • Reallocation of lab space attributable to SS for doctor's customers has been made on the basis of proportion of customers served by doctor.
Mini OT/IUD Room	• As there was no customer for IUD, Norplant, sterilization and PAC served by the doctor Mini –OT space is not included in the calculation.
ORT Corner	• ORT corner space is fully allocated to SS. • Reallocation of ORT corner space attributable to SS for doctor's customers has been made on the basis of proportion customers served by doctor.
DOTS Corner	• DOTS corner space is fully allocated to SS. • Reallocation of DOTS corner space attributable to SS for doctor's customers has been made on the basis of proportion customers served by doctor.
Autoclave room	• Autoclave room space is fully allocated to OH. • Reallocation of autoclave room space attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.
Satellite room	• Satellite corner space is excluded from the calculation.
Waiting room (both)	• Waiting room is fully allocated to OH. • Reallocation of lab space attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.
Toilet	• Toilet is fully allocated to OH. • Reallocation of toilet attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.
Corridor	• Corridor is fully allocated to OH. • Reallocation of corridor attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.

[Note: The above allocation rules have been applied for estimating cost of furniture and equipment]

3.6.3. Step-down Allocation

According to rules of step down approach, at the first step the cost of overhead (OH) has been reallocated between cost centers SS and DS. Thus, accumulated SS[1] and DS cost centers are formed. Accumulated SS cost is accounted in sub centers: (i) accumulated SS cost applicable for all services and (ii) accumulated SS cost applicable for specific services (cost of ORT and DOTS corner space, furniture) . Accumulated SS cost applicable for all services except specific services (cost of ORT and DOTS corner space, furniture) has been allocated to direct services in the second step. SS cost applicable for specific services has been allocated in the third step.

Allocation Rules for OH to DS and SS in Step 1

The following allocation rules have been followed in Step 1 (Table A.15) for allocation and reallocation of various cost items related to a cost center:

- Overhead salary has been allocated between DS and SS based on their proportion of FTE personnel in each of these cost centers. OH salary amount allocated to DS is distributed among different services based on their FTE proportion.
- Overhead space cost has been allocated between DS and SS based on their proportion. The OH space allocated to DS cost is allocated between different services on the basis of time spent by doctor for respective services.
- Overhead operations cost has been allocated between SS and DS on the basis of proportionate-to-floor space used by the respective cost centers. Overhead operations cost allocated to DS has been distributed between services proportionate to actual floor used.
- Overhead cost of NGO supervision has been distributed **equally** between DS and SS. Allocated to DS part of NGO supervision cost is further distributed equally among all services.
- Overhead furniture cost has been allocated between DS and SS on the basis of furniture and equipment used by each of the respective cost center. Overhead cost of furniture allocated to DS has been distributed between services on the basis of furniture used for each service.

Allocation rules in step 2

- SS accumulated salary (applicable to all services) is allocated to different services on the basis of FTE full time personnel in direct services.
- SS accumulated space cost (applicable to all services portion) is allocated among services proportionate to number of customers served by the provider for the respective services.
- Allocated to SS cost of operations, is allocated among services proportionate to number of customers served by the provider for the respective services.
- Allocated to SS cost of NGO supervision is distributed between services proportionate customers served for respective service
- Accumulated cost of furniture and equipment is allocated by services proportionate to actual number of customer for respective services.

[1] Accumulated SS cost center includes initially identified SS part and part of OH distributed to SS. Similarly, accumulated DS cost center includes initially identified DS part and part of OH distributed to DS.

Allocation rules in step 3

- SS accumulated salary (applicable to all services) is allocated to different services on the basis of FTE full time personnel in direct services.
- SS accumulated space cost (applicable to all services portion) is allocated among services proportionate to number of customers served by the provider for the respective services.
- Allocated to SS cost of operations, is allocated among services proportionate to number of customers served by the provider for the respective services.
- Allocated to SS cost of NGO supervision is distributed between services proportionate customers served for respective service
- Accumulated cost of furniture and equipment is allocated by services proportionate to actual number of customer for respective services.
- The cost of space for ORT corner allocated earlier to SS specific services is fully allocated to CDD service, and DOTS corner to TB.
- Cost of furniture in ORT corner allocated to SS specific services is totally allocated to CDD service, and DOTS corner to TB.

3.6.4. Standardized time estimation: Delphi exercise

Estimation of standard time in health services by services type is an innovative endeavor. Probably, this is the first time in Bangladesh where such a challenging task has been accomplished. It has been assumed that the services offered by the NSDP clinics through doctors, paramedics and counselors/clinic-aides are one of the quality services in the context of health services offered by NGOs of Bangladesh. Although there is a universal standard and protocol for provision of these services, there is no such standard time by services. We know how the antenatal care is to be provided and protocol is to be followed, as there is some government and NSDP approved protocol for this purpose. But this does not guide to respond to the question as to how much time is to be taken for ANC services, especially its history taking, physical examination, note taking, review of records, counseling, prescription writing, etc. The standard time has been worked out in the following way.

1. 'Format J'—the 'Guideline and Checklist for Bringing out Standard Time' was used, which contains list of services (with their subhead) provided by NSDP clinics for which the time is utilized. 'Format J' was sent to listed service providers (doctors and paramedics) of the NSDP clinics and they were requested to send their inputs in address of HDRC by using self-addressed stamped envelopes. The providers who failed to return their format were reminded. Out of 80 "Format J' sent to the providers opinion, in the first round, was received from 74.

2. After the receipt of their input, it was compiled, the out-liers excluded and the **1st round average** suggested time required in Standard Situation was brought out by specific services and its sub-heads.

3. Then the same service providers of NSDP clinics (who replied in the first round) were sent the compiled results for their 2nd round round opinion on it. The providers who failed to return their 2nd opinion was also reminded through telephone. This time we received opinion from 28 doctors and paramedics.

4. The opinion thus collected from the actual smiling sun service providers was compiled as **2nd round average** suggested time required in Standard Situation by specific services and its sub-heads.

5. In addition, 8 services in Radda MCH Center was observed by trained physicians of HDRC and NSDP to bring out a sense of standard time from training-cum-service centre.

6. Compiled average suggested time required in standard situation – 1st and 2nd round was then discussed in a Consensus Workshop situation (on August 24, 2005) (with those service providers who participated in the 2nd round; also participants from training organization-Radda MCH Center) and the NSDP observer physicians. The main purpose of the workshop was to reach consensus on standard time for each of the services.

7. In workshop, the summarized results of 1st and 2nd rounds were given to the participants. As this was the final attempt towards consensus, the final reactions of the participants were taken through voting or quantitative forecasting.

8. The participants were divided into 5 groups-- 1 doctor group, 3 paramedics group, and 1 Radda MCH group, and each of the groups were given specific service areas to workout.

9. Their voting or forecasting was then totaled to bring out the 'final standard time'.

10. The groups of participants then presented the final results to provide a sense of consensus and closure.

3.7. Study Implementation

3.7.1. Overview of implementation and work plans

The following activities were performed to achieve the research objectives:

1. Formation and mobilization of Core Team
2. Literature review
3. Joint meeting with the relevant *NSDP* officials to finalize study design and methodology
4. Collection and review of program and financial information from NSDP
5. Finalization of implementation plan and selection of sample clinics in consultation with NSDP
6. Development of data collection instruments
7. Recruitment of field and support staff
8. Pretest of DCIs and review of pretest results
9. Finalization of DCIs jointly with NSDP
10. Printing of DCIs
11. Training of data collection staff including Time Motion Observers, Observation Assistants, Field Investigators (both for inventory and customer survey), Field Supervisors, Quality Control Officers
12. Training of in-house staff (coders, code verifiers, editors, edit verifiers, registration assistants)
13. Field work for facility survey
14. Field work for activity sampling survey
15. Field work for customer survey
16. Quality control checks
17. Software development for data entry and analysis
18. Coding, editing and data entry
19. Data analysis
20. Holding Delphi Exercise Workshop for Consensus building on standard time
21. Sharing preliminary findings with NSDP and relevant PNGOs
22. Preparation and submission of draft report
23. Comments on draft report
24. Finalization of report
25. Submission of final report.

3.7.2. Literature and secondary data review

Review of all relevant literature and documents constituted the major activities before the preparation of the draft data collection instruments. All the members of the study core-team were involved in reviewing relevant literature. All relevant programmatic and financial data/ information from NSDP and PNGOs were collected and reviewed.

3.7.3. Data collection technique

The following strategy was adopted for data collection in the study.

All the customers (100%) along with the direct service providers in the sample facility on the particular day were under observations. At the entrance, all customers were given a prescribed form in which several columns for different activities at different points are mentioned (Patient Flow Survey). A well conversant female study team member was present in the clinic entrance through out the day of observation in the clinic and as soon as any customer stepped in the clinic, she requested her (customer) to sit a while, talked politely with her, and filled a format (Format E). With that format, the customer would travel to the registration desk. In every contact point of the customer traveled to the registration desk. In every contact point of the customer – from the registration desk to the end – the assigned study team member followed the patient without any interruption of the customer flow cycle on NSDP clinic.

All activities of the direct service providers in the facility along with their duration in seconds were sequentially recorded in specially designed formats (Time Motion Survey) using stop watch. A team of field staff comprising medical and non-medical personnel was deployed whose tasks were to record the time taken for performing various activities using respective formats. Specifically, medically trained persons (doctors) were posted at the point(s) of clinicians and observations were made through out the entire workday. This way, time taken by providers in various activities was accurately recorded. Time spent was categorized later during analysis as contact time, support service time, overhead time.

Facility survey was conducted in each sample clinic using specially designed formats for collecting information related to staff, income, expenditure, asset inventory, and expenditure on drug and supplies. NGO survey was also conducted for collecting all relevant information on NGO's supervision cost of Smiling Sun clinics.

Customer survey was conducted on a random sample of customers chosen on random timing.

The data collection activities for the involved generating relevant information using the different types of instruments discussed in section 3.6. Data collection process included activities to generate/gather information on the following:

- Facility Inventory (facility survey)
  - i) Inventory of equipment and their estimated market value.
  - ii) Average use of each piece of equipment for a specific service.
  - iii) Inventory of facility stock of commodities and medicines and their estimated market value.
  - iv) Estimated average of commodities and medicines issued to individuals per service.
  - v) Inventory of entire staff, # of working hours for which they are paid, and their salaries.
- Time motion survey
  - i) Provider's patient contact time.
  - ii) Provider's non-patient contact time.

iii) Customer's contact time with non-clinician staff as part of services.
iv) Customer's waiting time.
v) Customers background information including socio-economic profile.

- Customer Survey
  i) Reason for visiting the clinic.
  ii) Reasons for choosing the time for visit.
  iii) What incentive(s) would convince the clients to switch to a different visiting time.

3.7.4. Recruitment and training of staff

This activity consisted of recruitment and training of Time Motion Observers (TMO), Indepth Investigators (II), Field Assistant Field Team Managers (AFTM), Quality Control Officers (QCOs), Research Assistants, Coders, Code Verifiers, Editors and Edit-Verifiers. All these staffs were recruited by inviting and interviewing eligible candidates. In selecting these personnel, `gender equality' was strictly adhered to. In addition, in selecting these staff, special preference was given to those having past experience in field data collection on similar research activities.

All those selected preliminarily were recruited as trainees. A trainee was finally appointed to the specific post, depending on his/her performance in the training. There was separate training for the survey teams, and in-house (coding, editing, registration) teams. In all these training sessions, NSDP designated personnel was invited.

The topics of training included, among others, overview of the study, aim of the study, overall and specific objectives of the study, details about the data collection instruments, sample drawing techniques, observation techniques, techniques of interview, rapport building etc.

Training was conducted through classroom lectures, demonstration interviews, role playing, field practice, review of lessons learned and suggested solutions. The training was provided by the Principal Investigator with active participation of all the members of the core-team.

3.7.5. Pretest and finalization of DCIs

All the data collection instruments mentioned in Section 3.6 were pre-tested to assess how relevant the questions/items are, how well the instruments can capture all relevant information pertaining to facility survey and activity sampling. During the pretests it was also observed how well the respondents of the customer survey understand the questions, and whether there are problems in administering the instruments. Pre-testing of the instruments took place in sites (NSDP clinic: both static and satellite) other than the sample ones. The pre-test results were shared with NSDP. On the basis of the pre-tests results, the draft data collection instruments were modified and the revised instruments were sent to NSDP for their review and approval. After receiving comments from NSDP on the revised data collection instruments were finalized. The final version, then, re-translated in both Bangla and in English.

The pre-testing interview team included, among others, the Principal Investigator, the Core Team Members, research coordinator and research from Research Triangle Institute representatives from NSDP, and some of the recruited field team staff. This ensured high quality of the interviews, understanding of the field situation, and thereby quality of the final data collection. The involvement of relevant NSDP staff in the pre-test teams strengthened their capacity in such research endeavors.

3.7.6. Data collection and data quality

The **data collection activities** involved conducting interview and/or observation with respective respondents/clinicians and other staff-members, and customers. In the case of **time motion survey**, considering the need for accuracy and volume of work, three time-motion observers (TMOs) was needed to observe three providers (doctor, paramedic, counselor) activity at a urban static clinic for a single observation day. Similarly, a team of 2 TMOs observed rural static clinic. One TMO observed one satellite clinic in both urban and rural locations. In addition, facility inventory was conducted by a team, and customer survey by a mixed team deployed in each static-clinic observation sites.

A sound quality control system was developed to adequately monitor the quality of data collection. For this purpose, four Quality Control Officers (QCOs) were deployed. They constantly moved around the sample clinic spots; and ensured quality data through: (i) field checking, and (ii) data monitoring. Field checking was undertaken in both `presence' and `absence' of the information collection teams. During their field checking, the Quality Control Officers performed re-interview, and/or check the data accuracy. Some of the reported non-response item was also checked to ensure that they were all due to valid reasons.

Data monitoring was done by comparing results of some key variables in completed format/ questionnaire, tabulating the variables by field teams.

In addition, the Principal Investigator all the members of the core-team maintained constant touch with the field operations. The core-team members undertook field trips as per the need of the surveys.

3.7.7. Data processing and analysis plan

The survey data processing activities involved editing and coding of the questionnaire, and computerization of data and validation checks.

Editing was done by a team consisting of the core team members, the Systems Analyst, 3 editors and 3 edit verifiers. The major objectives of editing was to verify that the DCIs had been correctly filled-in, correct samples have been interviewed; that items of information recorded or responses to questions obtained are consistent with one another; and that all questions in the questionnaire have been asked.

The data were analyzed using the in-house computer facility of Human Development Research Centre (HDRC).

Data were entered in MS ACCESS. A specially designed software package was developed using Visual BASIC for estimating unit cost, cost of downtime and average cost. Estimates for all clinics was separately done. The customer survey was analysed using SPSS.

The System Analyst and the data entry operator of HDRC were responsible for computerization of data. The System Analyst, with technical assistance from the Consultants, prepared the code-manual.

Finally, the plan of analysis was developed by the core-research team, and shared with the research coordinator from RTI and external consultant and NSDP team. The key findings were presented to NSDP in presence of USAID Health, Population and Nutrition Team members before the submission of the draft report.

Executive Summary

Background

NGO Service Delivery Program (NSDP) is one of the largest NGO health services delivery network in Bangladesh providing ESP services in both urban and rural areas through the *'Smiling Sun'* clinics. It is engaged in providing ESP services in partnership with 37 NGOs and covers all administrative districts except the hill districts of Chittagong Division. A total of 317 static clinics and over 8,000 satellite clinics are functioning in both the rural and urban settings under the NSDP NGOs. Therefore, considering the increasing demand for ESP services in Bangladesh and scarcity of resources to meet the demand, and huge coverage of NSDP NGOs, the NSDP initiative to conduct an in-depth research on cost structure and staff utilization should be deemed as a high-utility one. Estimation of unit and average costs of services, assessment of cost structure and degree of staff utilization in offering high quality health services are key components for assessing efficiency, estimating additional resources for expansion of service coverage, and devising means and ways towards sustainability. The results of the study are supposed to contribute significantly in the formulation of policies to enhance economic and operational efficiency of the program and sustainability of the service delivery mechanisms including the ones provided by NSDP NGOs.

Objectives

The overall objective of the study is to understand, estimate and analyze cost structure of services delivery and explore the scenarios of staff utilization in NSDP clinics. The specific objectives of the study are: (1) to measure the economic efficiency – in terms of cost of services and staff utilization of the clinics in providing health services; (2) to analyze the underlying factors that determine the economic efficiency – in terms of cost of services and staff utilization – of clinics; and (3) to suggest management changes that could improve economic efficiency in terms of cost and staff utilization.

Research Outcome

The study report produced through this research provides an in-depth understanding about the cost structure of health services delivery and scenarios of staff utilization in NSDP clinics. This, in turn, provides a basis to broaden the understanding about the relationships between various agents of cost and staff time utilization. The study findings will be of high utility for the NSDP NGOs to improve their efficiency and facilitate their sustainability. This research outcome will enable the NGOs to see more clearly about the complex interrelationships among cost of services, pattern of staff utilization, standard contact time by services, and flow of customers in peak and off-peak hours. This study will have significant methodological utility for the relevant research community, and practical utility for the practitioners in NGO and development partners.

Methodology

The study covered all NSDP partner NGOs and sample clinics all over Bangladesh. Three types of surveys were conducted: Facility Survey, Time Motion Survey, and Customer Survey. Clinics, service providers, and customers were captured in the sample.

The samples included 55 NSDP clinics as primary sampling units in the facility survey, 190 service providers as primary observation points in the time-motion survey, and 516 customers in customer survey. The sample ensured representativeness of urban and rural locations, static and satellite clinics, doctors, paramedics and counselors/clinic aides. The randomness of the samples has been ensured.

The facility survey conducted inventory of personnel and material resources, and collected information on their utilization using eight specially designed formats. The time motion survey observed and recorded all activities of the providers including time spent in each and every activity and sub-activity through out the entire day. Therefore, all customers of the service provider along with activities of the provider in connection with them on the day of observation were captured. Moreover, all other work related and non-work related activities of the provider during the day of observation were also recorded including the duration of each of them. The customer survey dealt with issues related to the perception and observation of the respondents about the peak and non-peak hours, and their willingness to visit the clinics during non-peak hours along with perceived preconditions.

The data thus collected have been collated separately for providers of static and satellite clinics in urban and rural locations. Then, at the second level, required analyses were performed for cost and staff utilization analysis of NSDP clinics.

Key Findings

The study reveals that the NSDP health service delivery mechanism poses a complex system with the provision of wide range of services. The system comprises two major subsystems: (i) the service delivery in urban locations, and (ii) service delivery in rural locations. Both the subsystems, besides their structural differences, have the common feature that the services are targeted to the disadvantaged people through its static and satellite clinics.

The staffing pattern, especially the number of staff in various categories, in both urban and rural locations, varies across the system. However, about half of the staff in urban and rural clinics is direct service providers. The rest staff-members, in almost each and every clinic, are overhead staff.

Average number of customers in clinic varies by type and location of the clinic. Urban static serves on average 45 customers per day, and it is 26 for rural static. While urban satellite serves 20 customers, the rural satellite 27 customers, on average per day.

NSDP clinics serve customers, of which 64% are poor. This is in a situation where nationally poverty ratio is 44%. This implies that NSDP service delivery system is much sensitive to the poor.

The highest number of customer in urban and rural static clinic is for treatment of LCC (11 and 7 customers per day respectively). In satellite clinics, both urban and rural locations, highest numbers of visits are for injectable (5 and 11 customers per day respectively). On the average, a doctor in urban static serves 19 customers per day, while doctor in rural static serves 15 customers per day. For paramedic, in urban static, the average number is 24 customers per day and in rural static paramedic serves 20 customers. Counselors in both urban and rural static serve less than 2 family planning customers per day. Paramedics in urban and rural satellite serve 20 and 27 customers per day, respectively.

Although the service providers in both urban and rural locations provide a wide range of health services, the highest number of customers' visits to doctors is for LCC (8.3 in urban static and 6.5 in rural static). The paramedics in urban static serve more clients of EPI than any other services (5.8 customers per day). A paramedic in rural static on average serves more customers of LCC than other services (5.6 customers). However the highest number of visits in satellite clinics is related to injectables.

About 8% of fulltime equivalent (FTE) of all urban clinic staff accounts for direct services, 74% for overhead activities, 9% for support services, and 10% is lost due to down time. About 55% of full time equivalent of all urban clinic staff is used in static clinic and it is 35% in satellite clinics (excluding down time). About 84% of total FTE in a rural clinic is accounted for overhead activities, 6% in direct services, 4% in support services and 7% is lost due to downtime. On the whole, for rural clinic, 53% of FTE is used in static and 40% in satellite (excluding downtime).

A doctor in urban static spends 153 minutes a day for direct services, 147 minutes for non-contact time and 170 minutes for down time (mainly waiting for clients). A paramedic in urban static clinic spends 142 minutes for direct services, 178 minutes as non-contact time, and 158 minutes are downtime. A counselor in urban static spends 10 minutes for direct services, 457 minutes as non-contact time and down time is 13 minutes. A doctor in rural static spends 182 minutes for direct services, about 112 minutes as non-contact time and 188 minutes for down time. For paramedic in rural static clinics, 197 minutes account for direct services, about 106 minutes as non-contact time, and 178 minutes account for downtime. A clinic aide/counselor in rural static spends 14 minutes for direct services, 443 minutes as non-contact time and 23 minutes on down time. A paramedic in urban satellite clinic spends 116 minutes for direct services, 264 minutes for non-contact time, and 100 minutes on downtime. For paramedics in rural satellite, 158 minutes are direct service time, 249 minutes are non-contact time and 73 minutes are downtime.

The downtime mainly consists of waiting time for customer (range 67% - 77%). The average lunch break across the providers by type of clinics and locations does not exceed 30 minutes. Average downtime between two customer visits for doctor in urban static is 6 minutes and for doctor in rural static is 9 minutes. The same for paramedic in urban static is 5 minutes and in rural static 6 minutes. In urban satellite, the average downtime between two customers is 2 minutes, while in rural satellite it is 3 minutes.

Unit cost of services type varies across the providers, clinic type and location. Unit cost of doctor-delivered ANC 1st visit in urban static is Tk. 98, the same in rural static is Tk. 179. For paramedic in urban static, ANC 1st visit costs Tk. 75 (Tk. 132 in rural static). The ANC 1st visit in urban and rural satellites costs Tk. 75 and Tk. 87 respectively. Unit cost also varies by services type. The unit cost of doctor-delivered services in urban static ranges between Tk. 40 (TB) and Tk. 292 (PLTM).

The unit cost of any service is a joint cost of three cost centers: Direct Service Cost (DS), Overhead Cost (OH), and Support Service Cost (SS). The share of OH in unit cost is high across the type of provider, clinic, and location. For doctor-delivered services in urban static, the OH share ranges between 52% (PAC) and 81% (EPI) of the unit cost. OH share in unit cost of paramedic-delivered services in rural static varies between 90% (IUD) and 93% (CDD). The same is similarly high for other providers in different types of clinic and locations.

The unit cost of service largely depends upon the number of customers. The unit cost of doctor-delivered LCC is highest at Tk. 166 in a clinic where the doctor has only 2 LCC customers, and it is lowest at Tk. 26 in another clinic where the doctor has as many as 10 LCC customers. OH part in total cost of LCC for the day in these two clinics are Tk. 210 and Tk. 140 respectively. The share of OH in unit cost in the highest-cost clinic is Tk. 105 (63%) and that in the lowest-cost clinic is Tk. 14 (53%).

The observed unit costs of doctor-delivered LCC in urban and rural static clinics respectively are Tk. 63 (8.32 customers) and Tk. 89 (6.52 customers). Estimates reveal that if the number of customers in both clinics increases from their observed respective numbers (8.32 and 6.52) to 10, the unit cost will decrease. The newly estimated unit cost (as a result of increase in number of customer) for doctor-delivered LCC in urban static will decrease by about 12% and in rural static by 29%.

Average cost as well as the cost of downtime of services type follows the pattern similar to the respective unit cost by services type.

Irrespective of providers and services type, the actual time devoted to the customers (as direct contact time) is less than that required as per the standard time. As compared to the standard time, an urban doctor spends 84 minutes less contact time a day, and this is as high as 162 minutes for urban paramedic, 60 minutes for rural doctor, and 44 minutes for rural paramedics. Since observed down time much outweigh the above time, it is possible to comply with the standard time.

On the whole, about 87% of customers in NSDP clinics arrive between 09: 00 hrs and 13:00 hrs (peak hours), and 58% of customers arrive between 10:00 hrs. and 11:00 hrs. However, 94% rural and 84% urban customers visit clinics during this peak hours. A noticeable urban-rural difference also exists in customer flow during non-peak hours: about 5% rural customers and 14% urban customers visit clinics during these hours. 90% of customers consider their present visiting time convenient. About 80% of those who consider present visiting time convenient, reported to have less pressure of housework during these hours. About 25% has reported that the clinic is less crowded during their visits and thereby the visiting time is convenient for them. Over 10% of the customers reported that their current time of visit is inconvenient, and it is because of (i) too much housework, (ii) doctors not available, (iii) too much crowd.

Over 75% of urban and 80% of rural customers expressed their willingness to take services in off-peak hours. According to them, the reasons behind such willingness are (i) less crowd during the off-peak, (ii) doctors will be available to give more time, (iii) availability of better services, and (iv) less household work. According to the customers if clinic can ensure giving more time to customer (increase direct contact time), ensure presence of qualified doctors, and introduce no or low (reduced) service charge for the poor during non-peak hours, the customer flow will increase.

Policy and Program Implications

The five major issues having policy and program implications emerging from this study are as follows:

(i) Issue of customer volume: The volume of customers in NSDP clinics is generally low. Urban static clinic serves on average 45 customers per day, rural static 26 customers, urban satellite 20 customers and rural satellite 27 customers. Findings reveal that a low volume of customers increases the relative share of

overhead and downtime, which in turn affect the unit cost, cost of down time, and average cost.

One of the major solutions would be to adopt all possible measures towards increase in the volume of customers.

The benefits of increased customer volume will impact directly in decreasing unit cost and downtime; thereby, the average cost will also decrease. Simulation of the number of customers shows that a 17% increase in customer volume will reduce the unit cost by 12%, and share of overhead in unit cost by 17%.

(ii) Issue of contact time (DS time): The providers' actual contact time with customers compared to standard time is low for all services. As compared to standard time, an urban doctor spends 84 minutes less contact time a day. The time deficit is as high as 162 minutes for urban paramedics, 60 minutes for rural doctors, and 44 minutes for rural paramedics. Since the observed downtime much outweighs the above time, it would be possible to comply with the standard time.

The key solution to resolve this issue of low contact time, NGOs and clinics should ensure providers spend more time in congruence with the standard time.

The benefits of increased contact time will be reflected directly in customer satisfaction. More customers will be attracted to clinics because of better quality, and as such, NSDP clinic's image will be enhanced, which will contribute to the sustainability of NSDP NGOs. The cost of downtime also will be reduced due to increased contact time.

(iii) Issue of overhead: Overhead in NSDP clinics is generally high. Share of overhead in staff utilization is high. About 74% of full time equivalent (FTE) of all urban clinic staff is overhead, and about 84% in rural clinics. Provider's overhead time is a also high. Overhead time constitute 30% of an urban doctor's time and 28% of an urban paramedic's time. Moreover, the share of overhead in unit cost is also high. The share of overhead in unit cost of LCC delivered by an urban doctor is about 72% and about 83% for a rural doctor.

The key solutions would be to minimize providers' overhead time (e.g. doctor's time in administration) and increase in volume of customers.

The benefit of decreased overhead will be decrease in unit cost. As a result of reduced overhead, the providers and the clinics will be more efficient. The decrease in unit cost, in turn, will contribute to the clinic's sustainability.

(iv) Issue of use of non-peak hours: Customer flow in the non-peak hours is low. About 1% of customers arrive at NSDP clinics between 08:00 and 09:00 hours, and about 11% visit the clinics between 15:00 and 16:00 hours. The clinics serve only 12% of customers in 50% of their working time. It implies high downtime and low capacity utilization during the non-peak hours.

Many customers are willing to come during non-peak hours provided the doctors are available to give more time and better services are ensured. Therefore, all possible measures should be adopted to attract customers during non-peak hours. Introduction of free-of-cost or reduced service charges for the poor during non-peak is one of the plausible solutions.

The many potential benefits of increased use of non-peak hours include increased capacity utilization, reduced downtime, smoother customer flow during the day, increased contact time, enhanced customer satisfaction, and increased volume of customer.

(v) Issue of utility of "cost analysis" for the NGOs and clinics

The NGOs and clinics are not well conversant about unit cost and average cost including costs of overhead, support services, direct services and downtime. Their lack of knowledge about cost analysis impedes designing comprehensive sustainability plans to reduce the cost of services.

The key solutions would be to develop a simple and computerized cost analysis tool, and impart training on the subject to the NGOs.

The benefits will include, among others, (1) the NGOs and the clinics will learn simple form of cost analysis, and (2) they will be able to relate that with sustainability planning. By learning cost analysis, NGOs will improve their capabilities for strategic thinking.

CHAPTER FOUR

STAFF UTILIZATION

This chapter provides analysis of staffing patterns, customer flow, and utilization of staff time. The analysis has been made in terms of full time equivalent in observed urban and rural set-ups for providing ESP services in static clinics and satellite sessions. It was found that the staffing pattern and the customer flow vary by type of location (urban and rural) and by type of service delivery points (static and satellite). It emerged that the direct service providers along with other staff-members were directly or in other ways involved in providing any of the ESP services at each and every service delivery points.

Indepth analysis on staffing patterns by locations and service delivery points is provided in Section 4.1. Section 4.2 dealing with customer flow by clinics. Section 4.3 explores staff utilization based on analysis of utilization of provider and other staff full time equivalents. Issues related to utilization of direct providers time are addressed in Section 4.4 and pertinent aspects of providers' direct contact time and downtime have been discussed respectively in sections 4.5 and 4.6.

4.1. Staffing Pattern

Smiling Sun services' delivery system provides health care services through its clinic network with static clinics at the center and satellite service delivery sessions at the community level (which are held in fixed satellite spots). The staffing pattern of clinics in the urban set-up differs from that of the rural set-up. Doctors, paramedics and counselors provide the services in the urban static clinics. In rural static clinics, the paramedics and clinic aides provide ESP services. In urban set-up the doctor works as the clinic manager, while in rural set-up the clinic manager is not a direct service provider. Urban and rural clinic staffing structure, in general, is depicted in Box 4.1.

Box 4.1: General staffing pattern in Smiling Sun clinics`

Static Clinic			
Urban		**Rural**	
Direct service providers		**Direct service providers**	
Clinic Manager (Doctor)	1	Paramedic	2-5
Paramedics	2-5	Clinic Aide	2-5
Counselor	1		
Supporting staff and others		**Supporting staff and others**	
Service Promotion Officer	1	Clinic Manager (non-doctor)	1
Service Promoter	2-5	Office Assistant	1
Lab. Technician	1	Service Promoter	2-5
Messenger	1	Messenger	1
Cleaner	1	Cleaner	1
Aya	1	Guard	1
Guard	1		
Satellite Clinic			
Urban		**Rural**	
Direct service provider		**Direct service provider**	
Paramedic	1	Paramedic	1
Supporting staff and others		**Supporting staff and others**	
Service Promoter	1	Clinic Aide	1

Estimates show an average of 12.8 staff-members (Table 4.1) in a urban clinic (with a minimum of 5 and maximum of 43). The rural clinic comprises of 13.7 staff-members on average (minimum 9 and maximum 20). It is found that there are on average 6.4 direct service providers [doctor 1, paramedics 3.7 (min 2, max 12) and 0.9 counselors] for providing direct services in an urban clinic. Of them, the doctor (clinic manager), 1 paramedic and the counselor (if available[1]) are assigned to provide services at the static clinics in each working day. The rest of the paramedics provide services in satellite sessions. In rural set-up, 1 paramedic and 1 clinic aide serve in the static, while other paramedics assisted by clinic aides and service promoters serve the satellite sessions.

Table 4.1: Staffing pattern in NSDP clinics

Staff categories	Urban			Rural		
	Average # of staff available	Minimum	Maximum	Average # of staff available	Minimum	Maximum
Total Staff	12.8	5	43	13.7	9	20
Direct service providers	6.4	3	23	7.6	2	14
Doctor	1	1	1	0.2	1	1
Paramedic	3.7	2	12	3.4	1	7
Counselor	0.9	1	2	0.2	1	1
Clinic aide	0.8	1	9	3.0	3	6
Field promotion staff	3.4	1	9	3.1	2	4
N	31	31	31	24	24	24

Source: Facility Survey

It is to be noted that altogether about 50% staff in urban clinic belongs to direct service provider category and 55% staff in rural set up belongs to same category. 28% staff in urban and 22% in rural clinic set-up used to work for field promotional activities[2]. It was revealed that around 22% staff[3] in both urban and rural clinics by designation was 100% involved in overhead-related activities (on average 3 persons in each clinic).

The facility survey revealed that the staff composition including position (including their designations) and number of available positions varies from clinic to clinic. Although the rural set-up has been designed to provide services with paramedics, doctors were found to provide services in some rural clinics. Nearly one out of five rural clinics have both the positions of counselor and clinic aides. The positions like BCC assistants, satellite assistants were found in a few sample clinics.

4.2. Customer Flow by Clinics

The average number of customer in urban static clinics was found higher than the rural static clinics. However, it was also found that average number of customers in rural satellite sessions was more compared to urban satellites. On average, 45 customers received services on the day of observation from urban static clinic, and 26 customers from rural static clinic (Table 4.2). A rural satellite session, on average served 27 customers, while the same in urban satellite was 20, on the day of observation.

[1] The study found 5 clinics, where the counselor position was not available on the day of observation.
[2] Service Promoters and SPO
[3] Office Assistant, Cleaner, Aya, Messenger, and Guard.

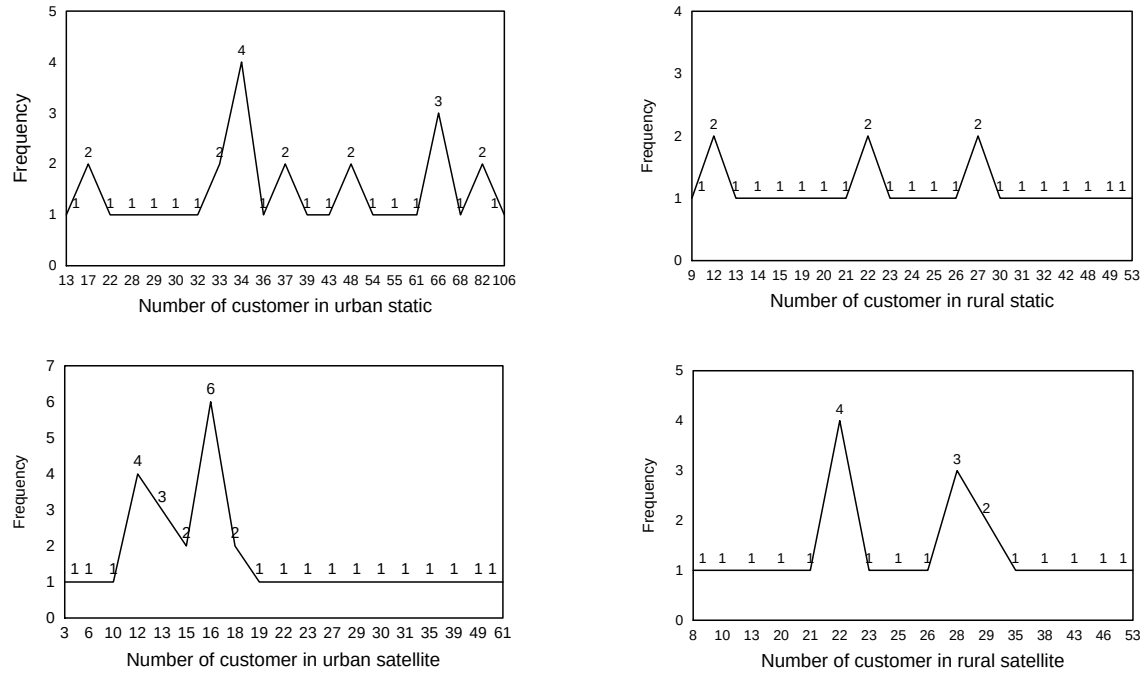
Table 4.2: Daily customer flow by types of facility and service provider

Provider type	Urban			Rural		
	Average # of customer	Minimum	Maximum	Average # of customer	Minimum	Maximum
Static	44.6	13	106	25.7	9	53
Doctor	18.9	4	45	3.7	13	35
Paramedic	23.9	8	67	20.5	9	51
Counselor/ clinic aide	1.8	1	6	1.5	1	8
N	31			24		
Satellite	20.1	3	61	26.7	8	53
Paramedic	20.1	3	61	26.7	8	53
N	31			22		

Source: Facility survey (Patient Flow survey)

The customer flow in Smiling Sun clinics, by and large was found uneven (Figure 4.1). 39% urban and 42% rural static clinics as well as 32% of urban, 46% of rural satellite clinics served on the day of observation more than their corresponding average number of customers. 42% urban and 17% rural static clinics served more than 40 customers on the day of observation, while 10% urban and 29% rural static clinics respectively served less than 20 customers. More than 30 customers were served in 19% of the urban and 23% of the rural satellite clinics, and less than 15 customers were served in 48% of urban and 14% of rural satellite clinics.

Figure 4.1: Customer flow in NSDP clinics



In sample urban static clinics, doctors had served 42% of all customers (Table 4.2), paramedic served 54% and counselor 4%. In rural static clinic, the doctor on average served 14% of all customers. Paramedic at rural static served 80% customers. Clinic aide/ counselor served 6%. In absolute numbers, paramedics on average served more than 20 customers in both urban clinic (range: 8 – 67 customers) and rural static clinic (range: 9 – 51 customers). The number of customers for each doctor had ranged between 4 and 45. The number of customers in sample urban satellites varied between 3 and 61, while the same in rural satellite was between 8 and 53.

Observations revealed that across the static clinics irrespective of urban and rural the highest number of client-visit was related with customers of LCC, which was injectable in case of satellite clinics (Table 4.3). The customer mix further revealed that about one-fifth of all customers came for LCC; and around two-thirds of all customers came for LCC, injectable, ANC (first visit and revisit taken together) and EPI services. The services, which are low in prevalence, include PAC, PLTM, Norplant and IUD. ESP component wise client mix is presented in Figure 4.2.

Figure 4.2: Average customer mix in NSDP clinics by services type

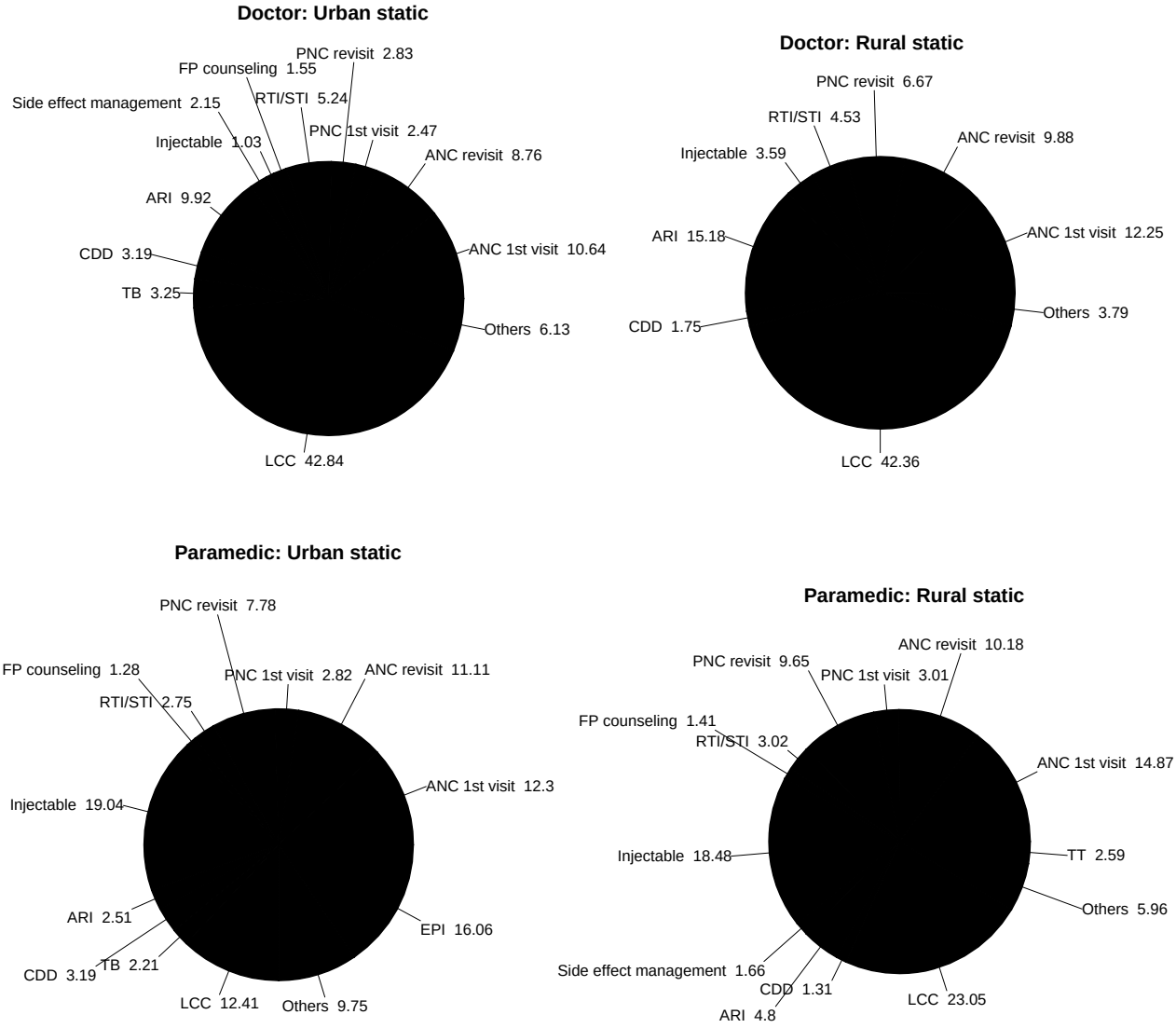


Table 4.3: Customer flow by services type by clinics

Services type	Static		Satellite	
	Urban	Rural	Urban	Rural
ANC 1st visit	3.35	2.58	1.39	2.32
ANC revisit	3.29	1.88	1.52	1.55
PNC 1st visit	1.13	0.50	0.35	0.14
PNC revisit	2.23	1.63	0.42	0.32
PAC	0.06	0.00	0.06	0.00
RTI/STI	0.97	0.42	0.58	0.55
Menstrual disorder	0.65	0.21	0.10	0.09
TT	2.39	0.54	1.26	0.50
FP counseling	1.52	0.88	0.48	0.59
Oral pill	0.68	1.25	1.87	0.82
Condom	0.48	0.25	0.16	0.18
Injectable	4.55	4.13	5.23	10.77
IUD	0.26	0.13	0.00	0.00
Norplant	0.39	0.17	0.00	0.05
Side effect management	0.45	0.38	0.16	0.59
ARI	2.35	1.71	0.32	0.36
CDD	0.55	0.42	0.06	0.36
EPI	6.10	1.38	2.39	2.82
TB	2.10	0.00	0.00	0.00
LCC	11.00	7.25	3.77	5.00
PLTM	0.16	0.00	0.00	0.00
Total	44.65	25.67	20.13	26.73
N	31	24	31	22

Source: Facility Survey and Time Motion Survey

Observations revealed that while the doctors and paramedics provide wide range of ESP services the services provided by counselors/clinic aides are limited to oral pill, condom and FP counseling (Table 4.4). In static clinics, paramedics provide services to more customers compared to doctors.

Customer mix by providers depicts that doctors in static clinics, in both urban and rural, serve more LCC customers than any other ESP component (Table 4.4). Maternal health care (ANC, PNC taken together) has been found in the second position with around 23% of all customers in urban and rural static clinics. About 22% of customers in rural static and 15% in urban static visited the doctors for child health care (ARI, CDD and EPI). About 6% customers in urban locations received services related with treatment of TB. The share of RTI/STI customers was less than 1%.

Highest number of customers served by paramedics came to urban static clinic for EPI (24%). While in rural clinic highest number of customers received treatment of LCC (27%). Customers for injectable contraceptives were in the second position across the board with 17% to 20% (Table 4.4). It is to note, however, that about one-thirds of all customers who visited paramedics at static clinics received maternal health care services (ANC, PNC and TT).

In satellite–sessions in both urban and rural locations–the highest number of visits were related with injectable contraceptives (26% in urban and 40% in rural), followed by LCC (19% in both locations), and EPI (10 to 12%).

Table 4.4. Services type wise customer flow by service delivery points (static and satellite) and by providers in urban and rural clinics

Services type	Static						Satellite	
	Doctor		Paramedic		Counselor/Clinic Aide		Paramedic	
	Urban	Rural*	Urban	Rural	Urban	Rural	Urban	Rural
ANC 1st visit	1.58	1.52	1.77	2.21			1.39	2.32
ANC revisit	1.58	1.32	1.71	1.54			1.52	1.55
PNC 1st visit	0.55		0.58	0.50			0.35	0.14
PNC revisit	0.55	0.52	1.68	1.50			0.42	0.32
PAC	0.03		0.03				0.06	
RTI/STI	0.61	0.52	0.35	0.29			0.58	0.55
Menstrual disorder	0.48	0.16	0.16	0.17			0.10	0.09
TT	0.13		2.26	0.54			1.26	0.50
FP counseling	0.23		0.29	0.21	1.00	0.67	0.48	0.59
Oral pill			0.26	0.58	0.42	0.67	1.87	0.82
Condom			0.13	0.13	0.35	0.13	0.16	0.18
Injectable	0.23	0.52	4.32	4.00			5.23	10.77
IUD			0.26	0.13				
Norplant	0.13	0.32	0.26	0.08				0.05
Side effect management	0.32	0.32	0.13	0.29			0.16	0.59
ARI	2.03	2.84	0.32	1.00			0.32	0.36
CDD	0.52	0.52	0.03	0.29			0.06	0.09
EPI	0.29		5.81	0.13			2.39	2.82
TB	1.23		0.87					
LCC	8.32	6.52	2.68	5.63			3.77	5.00
PLTM	0.13		0.03					
Total	18.94	15.08	23.94	20.46	1.77	1.46	20.13	26.73
N	31	4	31	24	31	24	31	22

** Note: Only those rural static clinics in which 'doctor' as service provider was available*

4.3. Staff Utilization by Full Time Equivalent

(including proportion by cost centers – direct service, support service, overhead)

Full time equivalent (FTE) of staff in an activity shows the degree of involvement of staff in that activity. The FTE is recognized as good measurement indicator of staff utilization. The study estimated available FTEs for each clinics and their distribution by clinic type (static/satellite) and by type of service providers. Detailed data on FTE analysis by clinics are presented in volume 2 (Annex Tables).

The aggregated scenario of **FTE distribution available for urban clinic** is presented in Figure 4.3. It depicts that on average an urban clinic has 12.8 full time staff (FTE = 12.8) for providing services through static and satellite clinics. An average urban clinic utilizes 8.11 FTE for static clinic (i.e. summation of proportionate share of all staff who are directly and/or indirectly involved in functioning of the static clinic including direct service providers, staff involved in support services and overhead staff). An average urban satellite clinic provides services using 4.6 FTE.

Distribution of FTE in Urban Clinic

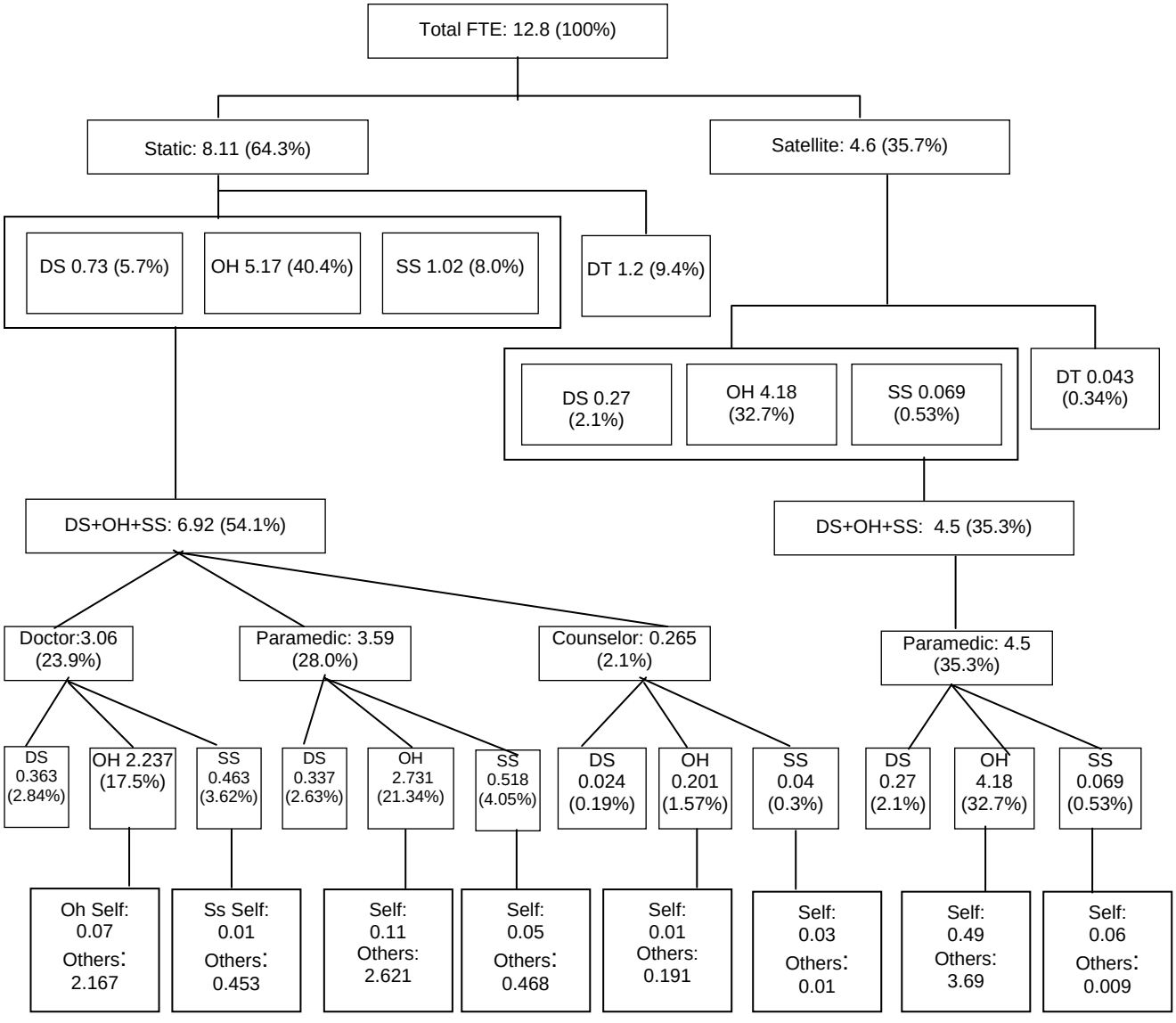
Total FTE = 100% (12.8 FTE)
DS = 7.9%
OH = 73.6%
SS = 8.6%

As can be seen in Figure 4.3, about 6% of total FTE (12.8) is required in the urban static clinic for providing direct services (DS FTE in static is 0.73). About 40% of total FTE is involved in overhead-related activities and 8% in support services. Thus, 6.92 FTE (or 54% of total) is used for providing services in static clinic. It is to note that the static clinic could not utilize about 9% of total FTE due to downtime. Similarly, 4.5 FTE (35% of the total FTE) is used for providing services in satellites, and 0.043 FTE is not utilized due to downtime.

In the process, the total available FTE in static clinic (6.92 FTE) has been further distributed between doctor's (FTE of doctor and other staff required for providing direct services by the doctor), paramedic's, and counselor's services. It reveals that for providing direct services by the doctor, 3.06 FTE (24% of the total clinic) of all staff including the doctor is required. Doctors' provided services consume 0.363 FTE (of doctor) for direct services (DS), 2.237 FTE (of doctor and other staff) for overhead (OH), and 0.463 FTE (of doctor and other relevant staff) for support services (SS). Figure 4.3 shows distributions of FTE for services provided by the paramedic and the counselor in static clinic.

In urban, the total available FTE for satellite clinics is 4.6. The distribution of FTE between DS, OH, SS and DT activities respectively are 0.27 FTE (2.1% of total FTE), 4.18 FTE (32.7% of total FTE), 0.07 FTE (0.5% of total) and 0.04 FTE (0.3% of total). In satellite, FTE accounted for DS, SS and DT related activities have been estimated on the basis of the activities made by the provider (paramedic), but FTE related to OH constitutes FTE of the provider and other relevant staff of the clinic concerned to satellite clinics.

Figure 4.3: Distribution of FTE in urban set-up



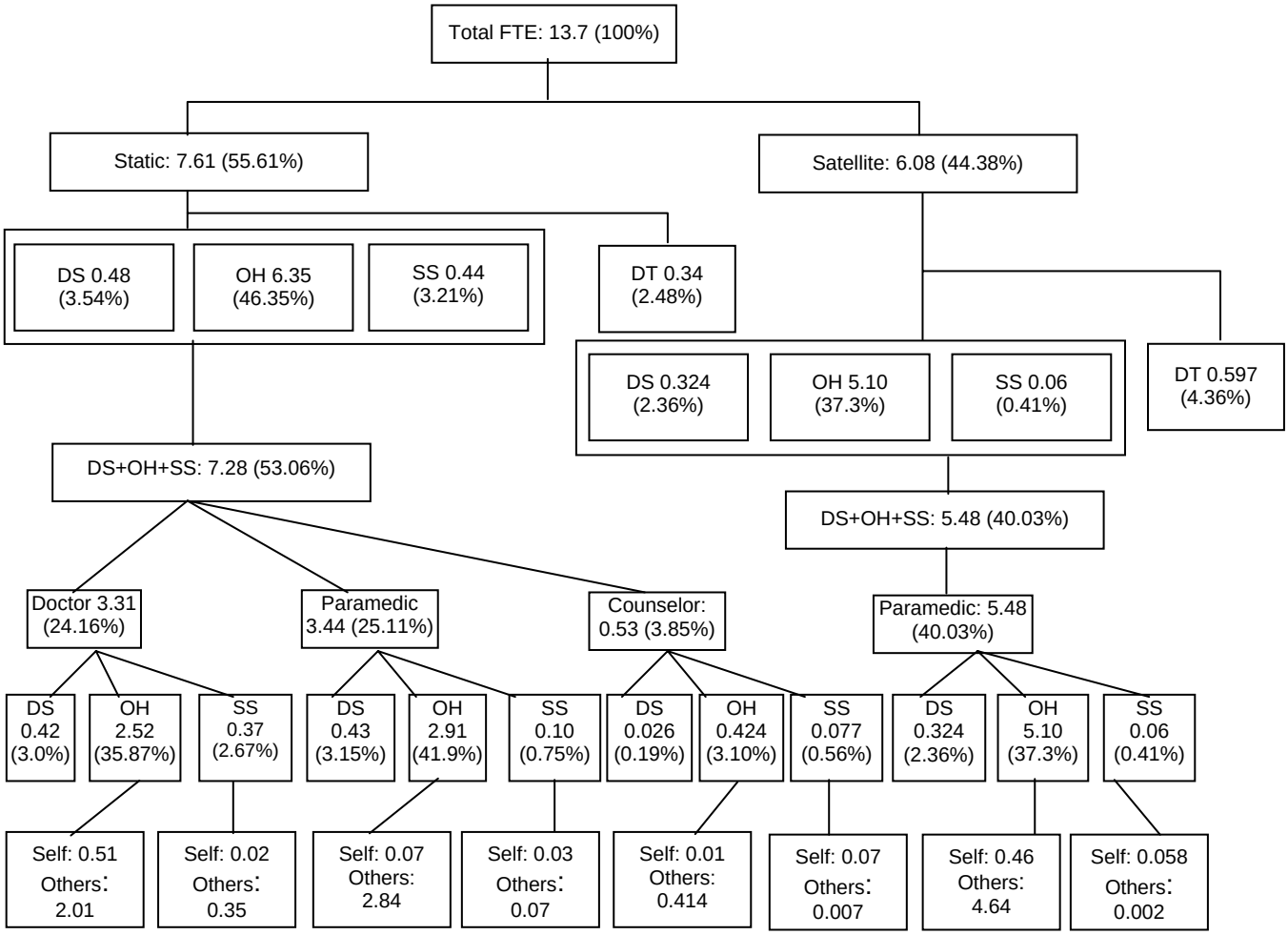
Source: Time motion survey

Distribution of FTE in Rural Clinic
Total FTE = 100% (13.7 FTE)
DS = 5.9%
OH = 83.7%
SS = 3.6%
DT = 6.8%

Figure 4.4 depicts the rural scenario of FTE distribution. A rural clinic on average, possess 13.7 FTE, about 6% of which is used for providing direct services through static and satellite clinics. The largest share in consuming FTE likewise in urban scenario is OH (84%). About 7% of the total FTE is lost due to providers' downtime and about 4% is accounted for support services. A rural static clinic consumes about 56% of total FTE and 44% is on account of the satellites. Component and sub-component wise distribution of FTE follows the similar to urban pattern.

However, the share of OH – across the providers in both static and satellite clinics in rural – is higher. Therefore, relative resource consumption in rural clinic is high, which will have relatively higher cost implication.

Figure 4.4: Distribution of FTE in rural set-up



Source: Time motion survey

Thus, the following findings having implication on cost and staff utilization are in order:

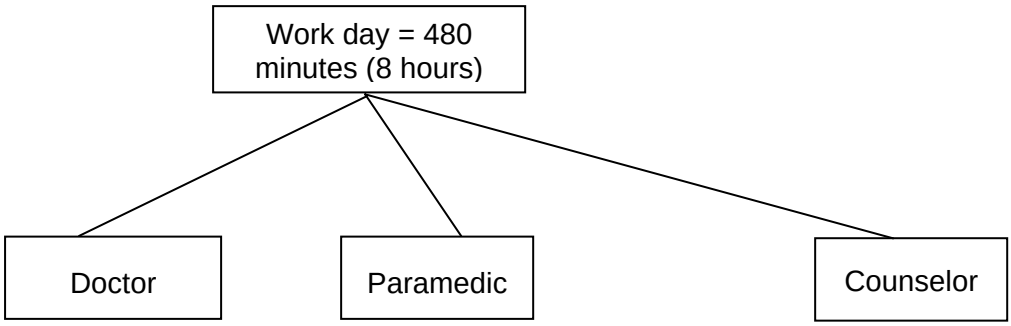
(a) the share of FTE in overhead is high (74% of total FTE in urban and 84% in rural),
(b) the share of FTE in overhead is high irrespective of service provider (doctor in urban static 17.5% of total FTE, for paramedic in urban static 21%, and 33% in satellite; doctor and paramedic in rural static respectively 36% and 42% of total FTE, and for paramedic in rural satellite 37%), and
(c) because of high share of FTE in overhead, the overhead share of cost of services will be high.

4.4. Utilization of Provider's Time (direct contact time, non patient contact time, downtime)

Proportion of direct contact time (direct service time), non-patient contact time (OH and SS time), and downtime are the criteria commonly used for measuring efficiency of staff utilization in health service delivery.

Observations revealed that doctors in urban static clinics, on average, spend around one-thirds of their time in providing direct services (Figure 4.5). About 32% of their time was non-patient contact time (OH and SS), and 36% downtime. Paramedics in these service delivery points spent about 30% time in direct contact with customers (DS time), 37% for non-patient contact time and 33% downtime. 94% of counselor's time was spent in OH and SS activities. It is to note that only 3% of counselor's time was spent for providing direct services.

Figure 4.5 Distribution of provider's time by direct contact time, non contact time (OH,SS) and downtime in urban static clinic



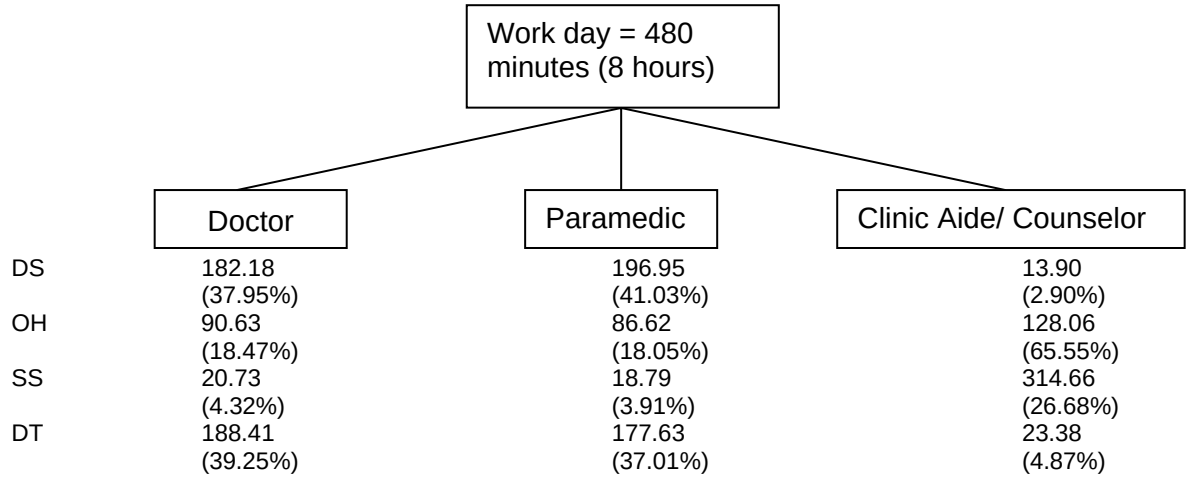
	Doctor	Paramedic	Counselor
DS	152.7 (32.0%)	141.91 (29.7%)	10.17 (2.1%)
OH	145.95 (30.5%)	133.73 (28.0%)	183.07 (38.4%)
SS	9.01 (1.9%)	44.28 (9.3%)	270.24 (56.7%)
DT	170.13 (35.6%)	158.0 (33.1)	13.18 (2.8%)

Source: Time motion survey

Analysis of providers' time distribution in rural static clinics revealed almost similar pattern with urban static. For doctors working in rural static clinics, the share of downtime ranks first position (39%), followed by direct services time and non-patient contact time (38% and 23% respectively) (Figure 4.6). However, in case of paramedics in rural static, DS time is found in the first position (41%) followed by DT (37%) and non-contact time (23%). Clinic Aide/ counselors' working time distribution pattern in rural static clinics was found identical to that of observed counselors in urban static clinics.

Providers in rural static clinics spend little more time in providing direct services as compared to their urban counterparts, although downtime across the provider categories in rural clinics was higher. For example, paramedics in rural static clinics spent on average about one hour more time in providing direct services compared to urban paramedics, and their observed downtime was also about 20 minutes more.

Figure 4.6: Distribution of provider's time by direct contact time, Non contact time (OH, SS) and Downtime in rural static set-up



Source: Time motion survey

The ranges of providers' time spent in DS, OH, SS and DT in urban and rural static clinics presented in Table 4.5 depict large variations by types of service provider. It also reveals that there exits ample scopes for increase in the DS time's share in the working day of all types of direct service providers. For both doctors and paramedics, the reserve for efficiency gain lies with downtime.

Table 4.5: Ranges of direct provider's time in DS, OH, SS, DT by urban and rural static clinics.

(in minutes)

	Doctor				Paramedic				Counselor				Clinic Aide	
	Urban		Rural		Urban		Rural		Urban		Rural		Rural	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
DS	26.9	340.4	154.3	215.2	19.5	308.1	87.5	288.3	2.7	43.1	3.5	48.8	3.8	29.3
OH	22.8	417.1	37.1	171.6	45.5	291.9	4.2	219.1	27.9	199.2	59.6	425.7	51	224.3
SS	2.0	56.7	11.3	31.0	1.3	135.0	3	87.7	247.1	440.1	275.8	383.2	233.2	400.1
DT	7.6	342.8	96.4	277.2	38.6	303.4	63.4	338	1.5	60.0	26.0	83.9	1.5	69.0

Source: Time motion survey

Table 4.6: Statistics of direct provider's time in DS, OH, SS, DT by urban and rural static clinics.

(in minutes)

	Doctor						Paramedic						Counselor/Clinic Aide					
	Urban			Rural			Urban			Rural			Urban			Rural		
	Mean	SD	CV (%)	Mean	SD	CV (%)	Mean	SD	CV (%)	Mean	SD	CV (%)	Mean	SD	CV (%)	Mean	SD	CV (%)
DS	152.7	80.5	52.7	182.2	31.8	17.1	141.9	62.0	43.8	196.9	68.0	34.5	10.2	12.2	120.4	13.9	12.2	120.4
OH	145.9	90.2	65.9	90.6	58.1	64.2	133.7	63.4	51.2	86.6	59.2	68.5	183.1	141.5	78.2	128.0	141.5	78.2
SS	9.0	13.4	148.8	20.7	14.6	138.2	44.3	35.5	80.2	18.7	24.5	130.4	270.2	127.2	47.1	314.6	127.2	47.1
DT	170.1	88.4	49.4	188.4	76.5	39.8	158.0	73.75	44.0	177.6	29.8	17.0	13.2	14.8	98.0	23.4	14.81	98.0

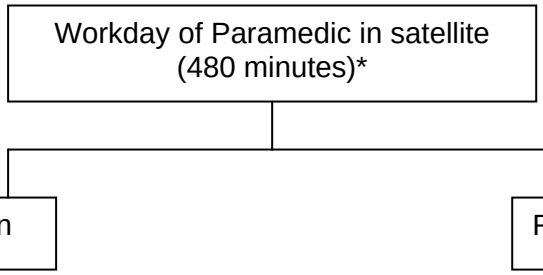
In order to assess the stability in providing time elements (DS, OH, SS, DT) of working hours of different service providers we have calculated coefficient of variation (CV). In Table 4.6 we notice that in case of Doctor, time given for SS shows the highest variability and this is true for both urban (148%) and rural (138%) clinics. In case of paramedic also the above is true-urban 80% and rural 130%. In case of Counselor/Clinic Aide counselor, the picture is a bit

different. Urban clinics show least stability in DS (120%) and this is true for rural clinics as well (120%). For Doctor in both rural and urban clinics, highest stability in time giving is for DT (39.8%). For paramedic in urban clinic least variation is for DS (43.8%) and rural paramedic it is for DT (17%).

Analysis of utilization of working time utilization in urban and rural satellites shows that paramedics had to spend about half of their working time in overhead activities (including traveling time from static to satellite and return). Paramedic's OH time in urban satellite is about 235 minutes (ranging between 120 minutes and 364 minutes), and in rural satellite the same is about 221 minutes (with minimum of 98 minutes and maximum of 332 minutes).

Direct service time (contact time), on average, spent by paramedics in urban and rural satellites respectively varies between one-fourth and one-third of their working day (Figure 4.7). The lowest time spent in DS observed in urban satellite was 9 minutes (2% of working day) and highest was 261 minutes (54% of work day). The average DS time for paramedics in rural satellite was about 158 minutes (more in comparison to urban satellites). The lowest DS time found in rural satellites was 65 minutes (13% of work day) and highest 310 minutes (65% of work day).

Figure 4.7: Distribution of provider's time by direct contact time, non-contact time (OH, SS), and downtime satellite clinics



DS	115.8 (24.1%)	157.9 (32.9%)
OH	235.3 (49.0%)	220.9 (46.0%)
SS	29.1 (6.1%)	28.1 (5.8%)
DT	99.9 (20.8%)	73.1 (15.2%)

**Note: 480 minutes include traveling time as part of OH*

Paramedic's downtime (DT) in urban satellite is about 21% and in rural satellite 15% of their working time. DT in urban satellite ranges between 6 minutes and 203 minutes and in rural satellites varies from 38 minutes to 139 minutes.

Average time spent by paramedics in urban and rural satellite session in support services (SS) was about half an hour.

The detailed estimates on utilization of providers' time by clinic is presented in Volume 2 (Annex Tables).

Table 4.7: Distribution of provider's (paramedic's) time by direct contact time, non-contact time (OH, SS), and downtime in rural urban and rural satellite clinics

(in minutes)

Time categories	Urban			Rural		
	Average time	Minimum	Maximum	Average time	Minimum	Maximum
DS	115.8	8.9	261.2	157.9	64.6	310.2
OH	235.3	120.3	364.5	220.9	98.1	332.0
SS	29.1	4.2	76.8	28.1	1.3	81.4
DT	99.9	6.4	203.5	73.1	37.8	138.6

Source: Time motion survey

Time motion survey revealed that a large portion of provider's time is downtime (ranging between 13 minutes and 188 minutes). It was observed that amount of downtime is generally high for the doctors and paramedics, and low for counselors and clinic aides.

However, a deeper look into components of providers' downtime depicts a general pattern applicable for all categories of providers. Waiting for customer has been observed as the paramount source of downtime for all provider categories irrespective of the clinic location (urban/rural) and type (static/satellite). "Waiting for customers" constitutes from 66% to 84% of total downtime. In absolute figures downtime related to waiting for client varied between 34 minutes (clinic aide in rural static) and 131 minutes (doctor in rural static) a day. Doctors in urban static and paramedic in both rural and urban static had to lose around 120 minutes time a day in waiting for customers. The same for paramedics in urban and rural satellites were around 80 minutes and 56 minutes a day, respectively.

The second major source of downtime was 'lunch break' consuming between 5% and 21% of total downtime depending upon the type of provider. However, it was observed that the lunch break for all types of providers did not exceed 30 minutes, which is commonly practiced norm in the country. Moreover, it was also observed that the paramedics during satellite sessions took less than 8 minutes to complete their lunch.

Observations further revealed that all other components together constitute rest of the downtime, which varies between 7 minutes (paramedic in urban satellite) and 38 minutes (doctor in rural static). Activity wise the share of downtime on account of activities other than waiting for customers and lunch was found negligible (Table 4.8).

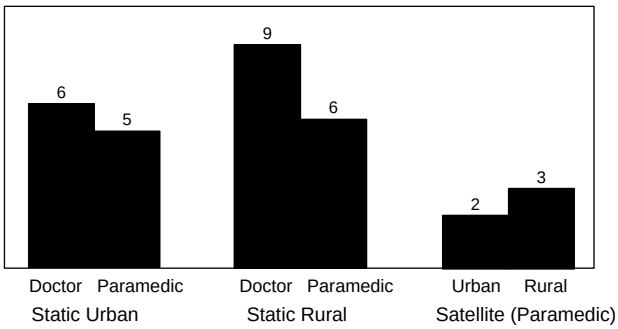
Table 4.8: Percentage distribution of provider's Downtime by observed activities and by providers

Activities	Static							Satellite	
	Doctor		Paramedic		Counselor	Clinic Aide	Counselor	Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural		Urban	Rural
Waiting for cleaning, work room preparation, equipment preparation	0.1	0.0	1.8	4.8	1.3	0.4	0.0	3.0	2.8
Absent on personal ground	0.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Arrived late	4.6	5.4	2.2	7.2	4.7	3.4	5.2	1.2	5.5
Chatting with other staff	1.2	0.2	5.1	0.6	2.3	1.6	0.0	1.8	0.4
Left early	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Lunch break	15.7	12.0	15.3	19.7	18.3	21.1	11.1	5.0	10.0
News paper reading	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prayer break	2.9	0.4	0.4	0.0	0.9	0.0	0.0	0.2	1.5
Tea or coffee break	1.6	0.7	0.9	0.2	0.9	0.1	0.9	0.4	0.7
Telephone call (personal)	1.0	0.0	0.1	0.0	0.3	0.0	0.0	0.3	0.3
TV watch	0.0	0.0	0.5	0.3	0.2	0.0	0.0	0.6	0.0
Using toilet	1.2	1.3	0.5	0.5	0.9	0.3	0.0	3.1	1.3
Visitor attended (personal)	2.4	1.8	0.6	0.0	0.5	0.1	0.0	0.0	0.0
Waiting for client	67.3	68.2	72.4	66.5	69.6	72.9	72.7	84.4	77.1
Waiting for supplies	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total DT	170.13	188.41	158.00	177.63	13.34	47.0	23.38	99.90	73.1

Source: Time motion survey

It is estimated that a doctor in urban static, on average, had to wait about 6 minutes for a customer (9 minutes in rural scenario). Paramedics' waiting time for a customer, both in urban and rural static, is almost similar to that of doctor in urban static clinic (with 5 minutes in urban and 6 minutes in rural). The same for urban and rural satellite clinics are 2 minutes and 3 minutes respectively (Figure 4.8).

Figure 4.8: Average waiting time for customer by providers (minutes)



The analysis of down time presented above permits us to conclude that both the increase in customer flow and increase in unit direct service time (patient contact time), to a large extent, can be addressed through reducing the share of downtime to an allowable/ permissible level.

4.5. Distribution of Provider's Direct Contact Time by Services Type (average contact time during peak and non peak hours)

Analysis of direct contact time of the service providers (Tables 4.9 and 4.10) depicts a pattern as follows:

(i) Doctors, both in urban and rural locations (static clinics), spend highest time (about an hour) in serving LCC customers, followed by maternal health care services (about 36 minutes).
(ii) Paramedics both in urban and rural static clinics spend highest time providing maternal health care services (45 minutes in urban and 68 minutes in rural).
(iii) About half-an hour from paramedic's direct contact time, in both urban and rural static clinics, is spent for providing injectable contraceptive.
(iv) Paramedics in satellite sessions both in urban and rural locations spend more time for providing injectable contraceptive than in static.

The pattern of contact time mix of direct service providers of static clinics and satellite sessions in urban and rural locations is presented in Figure 4.9.

Figure 4.9: Customer contact time

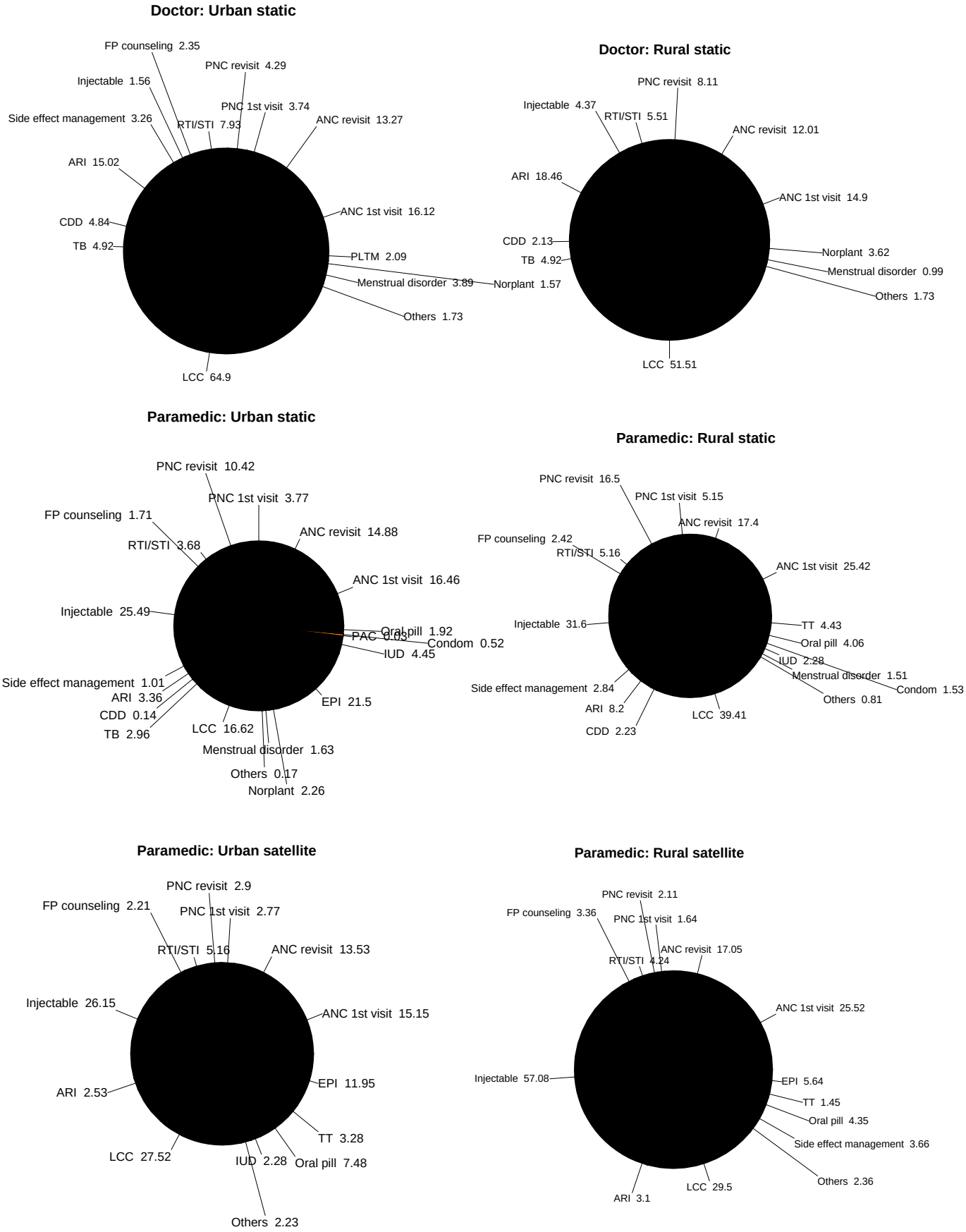


Table 4.9: Services type wise customer **contact time** by service delivery points (static and satellite) and by providers in urban and rural clinics

(In minutes)

Services type	Static				Satellite			
	Doctor		Paramedic		Counselor/Clinic Aide		Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
ANC 1st visit	16.12	14.90	16.46	25.42	0.00	0.00	15.15	25.52
ANC revisit	13.27	12.01	14.88	17.40	0.00	0.00	13.53	17.05
PNC 1st visit	3.74	0.00	3.77	5.15	0.00	0.00	2.77	1.64
PNC revisit	4.29	8.11	10.42	16.50	0.00	0.00	2.90	2.11
PAC	0.74	0.00	0.03	0.00	0.00	0.00	0.81	0.00
RTI/STI	7.93	5.51	3.68	5.16	0.00	0.00	5.16	4.24
Menstrual disorder	3.89	0.99	1.63	1.51	0.00	0.00	0.66	0.99
TT	0.00	0.00	0.00	4.43	0.00	0.00	3.28	1.45
FP counseling	2.35	0.00	1.71	2.42	4.70	4.36	2.21	3.36
Oral pill	0.00	0.00	1.92	4.06	2.23	3.89	7.48	4.35
Condom	0.00	0.00	0.52	1.53	3.15	0.40	0.48	0.76
Injectable	1.56	4.37	25.49	31.60	0.00	0.00	26.15	57.08
IUD	0.00	0.00	4.45	2.28	0.00	0.00	0.00	0.00
Norplant	1.57	3.62	2.26	0.00	0.00	0.00	0.00	0.29
Side effect management	3.26	0.00	1.01	2.84	0.00	0.00	0.00	3.66
ARI	15.02	18.46	3.36	8.20	0.00	0.00	2.53	3.10
CDD	4.84	2.13	0.14	2.23	0.00	0.00	0.28	0.32
EPI	0.99	0.00	21.50	0.81	0.00	0.00	11.95	5.64
TB	4.92	0.00	2.96	0.00	0.00	0.00	0.00	0.00
LCC	64.90	51.51	16.62	39.41	0.00	0.00	27.52	29.50
PLTM	2.09	0.00		0.00	0.00	0.00	0.00	0.00
	151.48	121.61	133.87	170.95	10.08	8.64	122.84	161.04
N	31	24	31	24	31	24	31	22

Table 4.10: Percentage distribution of services type wise customer **contact time** by service delivery points (static and satellite) and by providers in urban and rural clinics

Services type	Static				Satellite			
	Doctor		Paramedic		Counselor/Clinic Aide		Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
ANC 1st visit	10.64	12.25	12.30	14.87			12.33	15.85
ANC revisit	8.76	9.88	11.11	10.18			11.01	10.59
PNC 1st visit	2.47		2.82	3.01			2.25	1.02
PNC revisit	2.83	6.67	7.78	9.65			2.36	1.31
PAC	0.49		0.02				0.66	
RTI/STI	5.24	4.53	2.75	3.02			4.20	2.63
Menstrual disorder	2.57	0.82	1.22	0.89			0.54	0.61
TT				2.59			2.67	0.90
FP counseling	1.55		1.28	1.41	46.63	50.41	1.80	2.09
Oral pill			1.44	2.37	22.08	44.98	6.09	2.70
Condom			0.39	0.90	31.25	4.66	0.39	0.47
Injectable	1.03	3.59	19.04	18.48			21.29	35.45
IUD			3.32	1.33				
Norplant	1.04	2.97	1.69					0.18
Side effect management	2.15		0.76	1.66				2.27
ARI	9.92	15.18	2.51	4.80			2.06	1.92
CDD	3.19	1.75	0.11	1.31			0.22	0.20
EPI	0.65		16.06	0.47			9.73	3.50
TB	3.25		2.21					
LCC	42.84	42.36	12.41	23.05			22.40	18.32
PLTM	1.38		0.80					
Total contact time	100 (151.48)	100 (121.61)	100 (133.87)	100 (170.95)	100 (10.08)	100 (8.64)	100 (122.84)	100 (161.04)
N	31	24	31	24	31	24	31	22

Estimated average contact time by unit services type shows the variations by types of services, by types providers, by static and satellites, and also by urban and rural (Table 4.11). The average contact time for ANC first visit ranges between 9.3 minutes and 11. 5

minutes. Average unit contact time for RTI/STI by providers in urban and rural static clinics and satellite sessions varies from about 8 minutes (rural satellite, service provider paramedic) to about 18 (rural static, service provider paramedic). Doctors in urban and rural static clinics respectively needed on average about 13 minutes and about 11 minutes for the same, while paramedics in urban static spent on average around 10 minutes and around 9 minutes.

The most time demanding type of service observed was PAC in urban static clinic with about 25 minutes average unit contact time (with doctor as service provider), and the least time demanding was EPI in rural satellite with 2 minutes (paramedic as service provider).

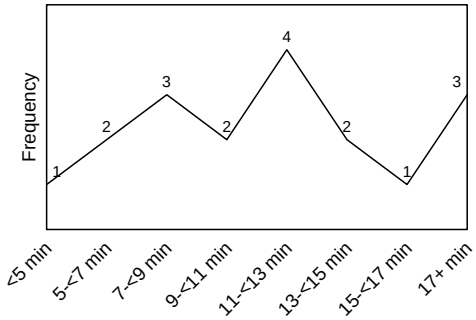
The study revealed large variations of unit contact time across the clinics. The distribution of unit contact time for paramedic delivered ANC 1st visit in sample urban and rural static and satellite clinics is presented in Figure 4.9. The paramedic, in 72% instances, spent more than 9 minutes (observed average unit contact time spent by paramedic in urban static for the same) for providing the ANC 1st visit service. In rural static, 55% paramedics spent more than the observed average unit contact time for the same.

Table 4.11: Contact time by **unit services** type by service delivery points (static and satellite) and by providers in urban and rural clinics

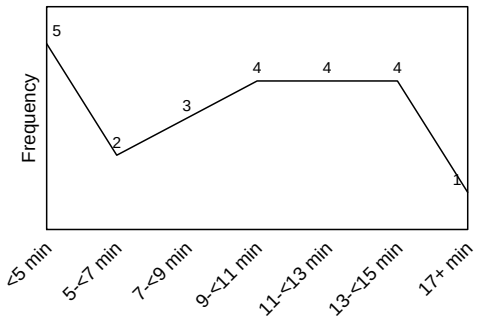
Services type	Static				Satellite			
	Doctor		Paramedic		Counselor/Clinic Aide		Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
ANC 1st visit	10.2	9.8	9.3	11.5			10.9	11.0
ANC revisit	8.4	9.1	8.7	11.3			8.9	11.0
PNC 1st visit	6.8		6.5	10.3			7.9	11.7
PNC revisit	7.8	15.6	6.2	11.0			6.9	6.6
PAC	24.8		0.9				13.5	
RTI/STI	13.0	10.6	10.5	17.8			8.9	7.7
Menstrual disorder	8.1	6.2	10.2	8.9			6.6	11.0
TT				8.2			2.6	2.9
FP counseling	10.2		5.9	11.5	4.7	6.5	4.6	5.7
Oral pill			7.4	7.0	5.3	5.8	4.0	5.3
Condom			4.0	11.8	9.0	3.1	3.0	4.2
Injectable	6.8	8.4	5.9	7.9			5.0	5.3
IUD			17.1	17.5				
Norplant	12.1	11.3	8.7		2.8			5.7
Side effect management	10.2		7.8	9.8				6.2
ARI	7.4	6.5	10.5	8.2			7.9	8.6
CDD	9.3	4.1	4.7	7.7			4.6	3.5
EPI	3.4		3.7	6.2			5.0	2.0
TB	4.0		3.4					
LCC	7.8	7.9	6.2	7.0			7.3	5.9
PLTM	16.1							
N	31	24	31	24	31	24	31	22

Source: Time motion survey

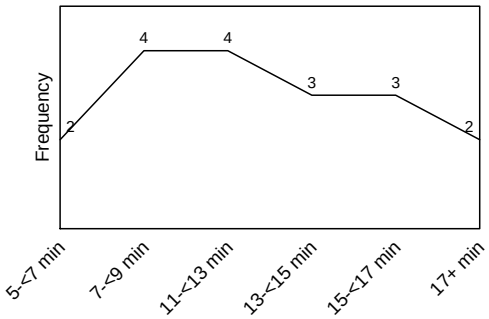
Figure 4.10: Distribution of ANC first visit cases by contact time in urban and rural static clinics



Unit time (minute) : Paramedic, urban static



Unit time (minute): Paramedic, rural static



Unit time (minute): Paramedic, urban satellite

Unit time (minute): Paramedic, rural satellite

CHAPTER FIVE

COST STRUCTURE, UNIT COST AND AVERAGE COST

This chapter explores unit cost, cost of downtime, and averages cost of unit service by services type. The detailed estimation methodology is delineated in section 3.7. Unit cost of services type by provider in urban and rural static and satellite clinics has been estimated. The tables containing clinic wise estimations of costs are presented in Volume 2 (Annex Tables). Along aggregated unit and average cost of services type by provider in an urban and rural clinic, cost differentials by cost centers and components are also presented in the current chapter.

5.1. Unit Cost of Services Type – Pattern

The unit cost varies by services type, by provider, by type of clinics and by location (Table 5.1). The most expensive service type (in terms of unit cost) across provider, clinic type and location is PLTM in urban static with doctor as provider (Tk. 292.15) followed by PNC revisit provided by doctor in rural static (Tk. 288.96). The least cost incurring service type across provider, clinic type and location is providing condom in urban satellite by paramedic (TK. 27.41) closely followed by treatment of menstrual disorder in urban satellite by paramedic (Tk. 27.45). However, in urban static clinic the least expensive service type is treatment of TB provided by paramedic (Tk.38.68), and treatment of the same with doctor as provider costs Tk. 39.66.

For doctor in urban static clinic, the three most costly services types are PLTM (Tk. 292.15), ANC first visit (unit cost TK. 97.66) and Norplant (unit cost Tk. 76.52). Similarly the three least costly services for doctor in urban static are TB (Tk. 39.66), EPI (Tk. 53.81) and PNC first visit (Tk. 58.78) (Figure 5.1).

For doctor in rural static, the three most costly services type are PNC revisit (Tk. 288.96), Injectable (Tk. 201.33), and ANC revisit (TK. 182.51). The three least costly services for doctor in rural static are CDD (Tk. 70.41), ARI (Tk. 78.83) and LCC (Tk. 88.92).

For paramedic in urban static clinics, the three most expensive services type are IUD, ARI, and RTI/STI respectively with Tk. 138.55, Tk. 93.05 and Tk. 84.74 respectively. The same for rural static with paramedic as service provider are Condom (Tk. 219.88), IUD (Tk. 188.56), and FP counseling (Tk. 186.93). Similarly, the three least resource consuming services type for paramedic as service provider in urban static clinic are TB (Tk. 38.68), TT (Tk. 45.94) and LCC (Tk. 48.85). In rural scenario, the same are Norplant (Tk. 65.97), EPI (Tk. 70.09) and TT (Tk. 85.64).

In case of urban satellite clinics, the three most costly services are ARI, ANC first visit, and ANC revisit with Tk. 103.13, Tk. 75.18 and Tk. 63.32 as respective unit cost of services type, and least expensive three are condom (Tk. 27.41), menstrual disorder (Tk. 27.45) and oral pill (Tk. 29.46).

In rural set-up, the three most expensive services provided through satellite clinics are PNC first visit (Tk. 119.41), ANC first visit (Tk. 86.88) and ANC revisit (Tk. 83.88); and the three least expensive ones are EPI (Tk. 34.91), Injectable (Tk. 39.67), and LCC (Tk. 47.32).

Attempts were made to classify all unit cost into three categories: (i) high-cost services type (three most expensive services), (ii) low cost (three least expensive services), and (iii) moderate-cost services type (all services type not included in i and ii) for urban and rural

static and satellite clinics by type of providers. Figure 5.1 depicts classification of service type wise unit cost for services provided by different providers at static and satellite clinics in urban and rural locations. The classification shows services type belonging to high and low categories, to a large extent, vary depending on provider, type of clinic and location.

It is to note that unit cost of each services type also vary by provider, type and location of clinic. The unit cost of ANC first visit ranges between Tk. 75.18 (in urban satellite) and Tk. 179.04 (in rural static with doctor as the provider).

Table 5.1: Unit cost of services type by providers at service delivery points (static and satellite) in urban and rural set-up

Services type	Static						Satellite	
	Doctor		Paramedic		Counselor/Clinic Aide		Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
ANC 1st visit	97.66	179.04	75.07	132.13			75.18	86.88
ANC revisit	74.38	182.51	79.05	113.57			63.32	83.88
PNC 1st visit	58.78		50.56	129.60			60.70	119.41
PNC revisit	71.67	288.96	70.78	147.95			45.65	49.55
PAC	70.56		65.92					
RTI/STI	73.37	141.92	84.74	181.41			52.245	69.39
Menstrual disorder	71.26	139.49	82.36	183.27			27.45	93.48
TT	66.05		45.94	85.64			30.68	56.71
FP counseling	60.37		79.82	186.92	60.48	161.36	39.53	49.49
Oral pill			64.06	102.24	46.25	112.12	29.46	78.75
Condom			59.46	219.88	82.62	111.68	27.41	78.08
Injectable	65.92	201.33	64.06	112.94			35.89	39.67
IUD			138.55	188.56				
Norplant	76.52	99.21	82.78	65.97				52.63
PLTM	292.15							
Side effect management	70.79	93.24	82.52	127.91			47.47	70.08
ARI	64.15	78.83	93.05	124.31			103.13	67.83
CDD	67.27	70.41	67.1	157.12			57.87	49.93
EPI	53.81		50.13	70.09			49.27	34.91
TB	39.66		38.68					
LCC	63.27	88.92	48.85	90.38			54.55	47.32

Figure 5.1: Classification of unit cost of services type

Doctor: Static Urban

High Cost	PLTM	292.15
	ANC 1st visit	97.66
	Norplant	76.52
Moderate Cost	ANC revisit	74.38
	RTI/STI	73.37
	PNC revisit	71.67
	Menstrual disorder	71.26
	Side effect management	70.79
	PAC	70.56
	CDD	67.27
	TT	66.05
	Injectable	65.92
	ARI	64.15
	LCC	63.27
	FP counseling	60.37
Low Cost	PNC 1st visit	58.78
	EPI	53.81
	TB	39.66

Doctor: Static Rural

High Cost	PNC revisit	288.96
	Injectable	201.33
	ANC revisit	182.51
Moderate Cost	ANC 1st visit	179.04
	RTI/STI	141.92
	Menstrual disorder	139.49
	Norplant	99.21
	Side effect management	93.24
Low Cost	LCC	88.92
	ARI	78.83
	CDD	70.41

Paramedic: Static Urban

High Cost	PLTM	473.59
	IUD	138.55
	ARI	93.05
Moderate Cost	RTI/STI	84.74
	Norplant	82.78
	Side effect management	82.52
	Menstrual disorder	82.36
	FP Counseling	79.82
	ANC revisit	79.05
	ANC 1st visit	75.07
	PNC revisit	70.78
	CDD	67.10
	PAC	65.92
	Oral pill	64.06
	Injectable	64.06
	Condom	59.46
	PNC 1st visit	50.56
	EPI	50.13
Low Cost	LCC	48.85
	TT	45.94
	TB	38.68

Paramedic: Static Rural

High Cost	Condom	219.88
	IUD	188.58
	FP Counseling	186.92
Moderate Cost	Menstrual disorder	183.27
	RTI/STI	181.41
	CDD	157.12
	PNC revisit	147.97
	ANC 1st visit	132.13
	PNC 1st visit	129.60
	Side effect management	127.91
	ARI	124.31
	ANC revisit	113.57
	Injectable	112.94
	Oral pill	102.24
	LCC	90.38
Low Cost	TT	85.64
	EPI	70.09
	Norplant	65.97

Paramedic: Satellite Urban

High Cost	ARI	103.13
	ANC 1st visit	75.18
	ANC revisit	63.32
Moderate Cost	PNC 1st visit	60.70
	CDD	57.87
	LCC	54.55
	RTI/STI	52.24
	EPI	49.27
	Side effect management	47.47
	PNC revisit	45.65
	FP Counseling	39.53
	Injectable	35.89
	TT	30.68
Low Cost	Oral pill	29.48
	Menstrual disorder	27.45
	Condom	27.41

Paramedic: Satellite Rural

High Cost	PNC 1st visit	119.41
	Menstrual disorder	93.48
	ANC 1st visit	86.88
Moderate Cost	ANC revisit	83.88
	Oral pill	78.75
	Condom	78.08
	Side effect management	70.08
	RTI/STI	69.39
	ARI	67.83
	TT	57.71
	Norplant	52.63
	CDD	49.93
	PNC revisit	49.55
	FP Counseling	49.49
Low Cost	LCC	47.32
	Injectable	39.67
	EPI	34.91

Thus, the unit cost varies by services type, provider type, type of clinic and location. It may be noted here that unit cost of service is the function of time and resources (human and material) and vary depending upon time and resource utilization. It is also to recall that for estimation of cost of unit service, the total cost of the provider excluding the cost related to downtime has been calculated at first step. The total cost then distributed between services following allocation rules and allocated total cost of services types are obtained in the second step. Finally, the allocated total cost for a service type is divided by number of customers of respective service type. Some pertinent data on this is presented in Table 5.2.

Analysis shows that one-day cost of a doctor in urban static clinic is the lowest compared to cost of doctor in rural static, and paramedic in both urban and rural static clinics. The total cost of a day for doctor and paramedic in rural static clinic respectively are 137% and 172% of total cost of doctor in urban static clinic, while number of total customers served in rural static clinic by doctor and paramedics are about 80% and 108% of the number served by doctor in urban static. It is therefore evident that the unit cost of services type for doctor and paramedic in rural static clinic in general is higher as compared to the same for doctor in urban static clinic. Similarly, the total cost of paramedic in urban satellite is about 73% to that of doctor in urban static, and number of customer served is about 106%. Therefore, it is

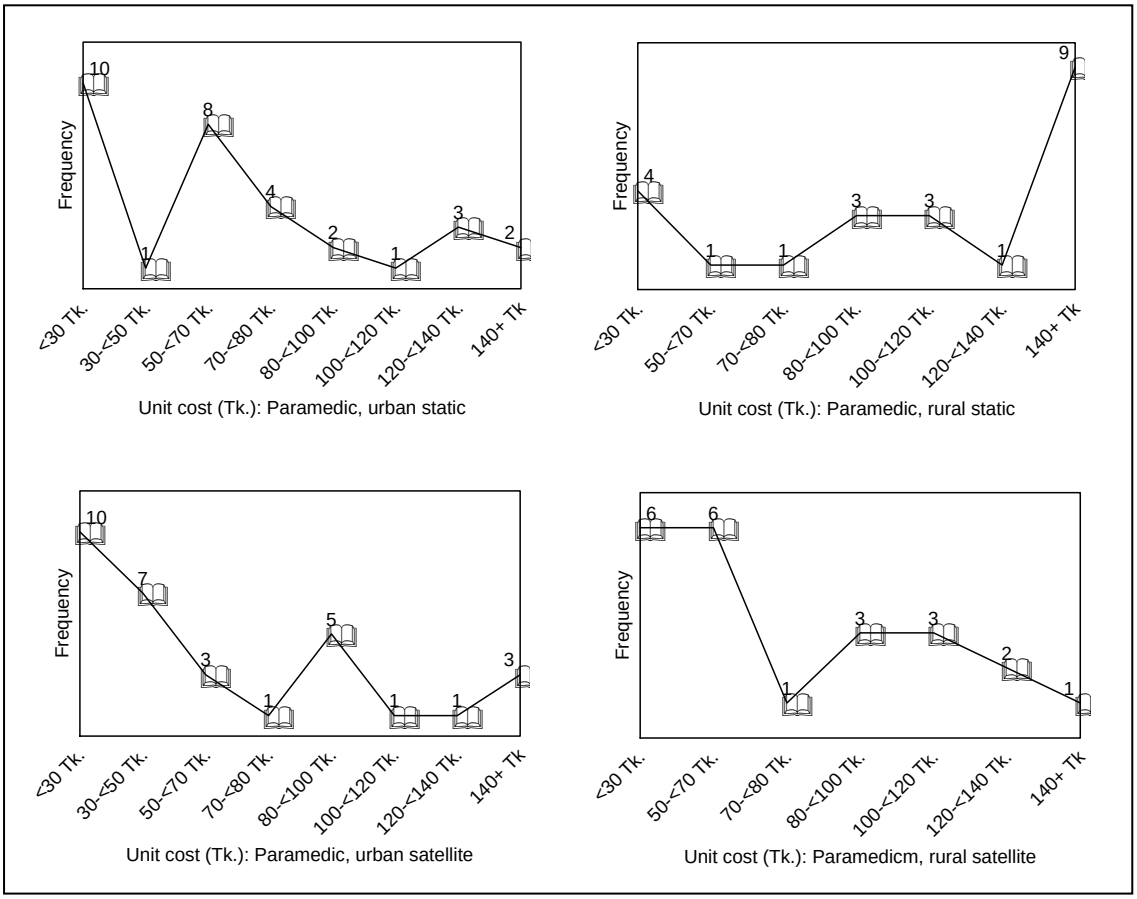
obvious that unit cost of services type for paramedic in urban satellite in general is less compared to the same for doctor in urban static clinic.

Table 5.2: Unit cost variation by providers, by clinic type and location

Indicators	Static				Satellite	
	Doctor		Paramedic		Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural
Total customer in clinic	18.94 (100.0)	15.08 (79.6)	23.94 (126.4)	20.46 (108.0)	20.13 (106.3)	26.73 (141.1)
Cost of a day for provider	1288.86 (100.00)	1765.95 (137.0)	1445.08 (112.1)	2217.25 (172.0)	946.50 (73.4)	1382.09 (107.2)
Unit cost for ANC 1st visit	97.66 (100.0)	179.04 (183.3)	75.07 (76.9)	132.13 (135.3)	75.18 (77.0)	86.88 (89.0)
# of customer	1.58	1.52	1.77	2.21	1.39	2.32
Total cost for ANC 1st visit	154.30	272.14	132.87	292.01	104.50	201.56
Unit cost for ANC revisit	74.38 (100.0)	182.51 (245.4)	79.05 (106.3)	113.57 152.7)	63.32 (85.1)	83.88 (112.8)
# of customer	1.58	1.32	1.71	1.54	1.52	1.55
Total cost for ANC revisit	117.52	240.91	135.18	174.90	96.25	130.01
Unit cost for PNC 1st visit	58.78		50.56	129.6	60.7	119.41
# of customer	0.55	0	0.58	0.5	0.35	0.14
Total cost for PNC 1st visit	32.33	0.00	29.32	64.80	21.25	16.72
Unit cost for PNC revisit	71.67	288.96	70.78	147.95	45.65	49.55
# of customer	0.55	0.52	1.68	1.5	0.42	0.32
Total cost for PNC revisit	39.42	150.26	118.91	221.93	19.17	15.86
Unit cost for PAC	70.56		65.92			
# of customer	0.03	0	0.03	0	0.06	0
Total cost for PAC	2.12	0.00	1.98	0.00	0.00	0.00
Unit cost for RTI/STI	73.37	141.92	84.74	181.41	52.245	69.39
# of customer	0.61	0.52	0.35	0.29	0.58	0.55
Total cost for RTI/STI	44.76	73.80	29.66	52.61	30.30	38.16
Unit cost for LCC	63.27	88.92	48.85	90.38	54.55	47.32
# of customer	8.32	6.52	2.68	5.63	3.77	5.00
Total cost for LCC	526.41	579.76	130.92	508.84	205.65	236.60

Unit cost of same service type provided by the same type of provider in urban clinics also vary to a large extent. The same is also true for rural clinics. Figure 5.2 depicts the variation of unit cost for ANC first visit provided by paramedics in urban and rural set-ups by different static and satellite clinics. It revealed that in large number of clinics the services are expensive compared to the average unit cost. Such findings imply that the program managers both at clinic and NGO levels need to reorganize the service delivery mechanism for increasing their economic efficiency.

Figure 5.2: Distribution of unit cost of ANC first visit for paramedics



5.2. Composition of Unit Cost by Services Type

The unit cost of a service comprises costs of three cost centers: (i) direct services (DS), (ii) overhead (OH), and (iii) support services (SS). Table 5.3 shows that share of OH in unit cost of services across the providers, type of clinic and location is the highest, distantly followed by DS and SS. The share of OH ranges between about 52% (PAC in urban static provided by doctor) and 93% (CDD in rural static by paramedic) of the unit cost of services type.

Table 5.3: Distribution of unit cost of services type by cost centers

	Static											
	Urban						Rural					
	Doctor			Paramedic			Doctor			Paramedic		
	DS	OH	SS	DS	OH	SS	DS	OH	SS	DS	OH	SS
ANC 1st visit	13.04	74.64	9.96	8.25	57.96	8.86	12.45	159.41	7.18	8.8	120.97	2.35
ANC revisit	10.49	56.54	7.34	7.96	60.95	10.13	11.39	160.77	10.35	9.02	103.15	1.39
PNC 1st visit	9.89	43.72	5.17	6.85	39.56	4.15				8.45	120.02	1.11
PNC revisit	11.33	53.98	6.35	6.55	55.92	8.3	14.91	252.13	21.91	9.38	135.78	2.78
PAC	24.27	36.94	9.35	3.43	58.28	4.21						
RTI/STI	15.19	51.73	6.45	9.27	63.5	11.96	14.5	122.63	4.79	12.64	165.93	2.83
Menstrual disorder	11.17	51.51	8.58	8.56	64.9	8.89	10.04	125.74	3.72	7.76	170.53	4.98
TT	8.23	52.05	5.77	3.63	37.59	4.71				6.93	77.43	1.27
FP counseling	9.66	43.53	7.18	6.44	66.81	6.56				10.82	172.57	3.54
Oral pill				5.84	52.02	6.2				6.5	94.28	1.46
Condom				5.52	48.82	5.11				10.01	203.02	6.84
Injectable	8.12	53.41	4.38	5.62	51.13	7.3	9.53	175.5	16.29	7.53	103.17	2.23
IUD				13.82	107.07	17.65				15.04	168.95	4.56
Norplant	14.64	45.91	15.96	7.53	63.13	12.12	14.43	81.91	2.86	1.86	62.6	1.51
PLTM	25.55	245.77	20.83									
Side effect management	13.31	47.91	10.2	9.61	69.19	3.72	11.55	78.15	3.54	7.63	118.61	1.67
ARI	10.4	45.79	7.95	8.73	71.53	12.78	9.82	66.15	2.85	6.67	115.14	2.48
CDD	10.79	50.07	7.04	3.43	62.11	1.55	6.55	62.12	1.73	6.83	146.81	3.48
EPI	5.38	43.77	4.66	4.07	41.7	4.35				5.67	63.79	0.62
TB	4.72	31.48	3.45	4.39	29.52	4.76						
LCC	10.82	45.53	6.9	5.98	37.03	5.83	10.9	73.7	4.31	5.93	83.15	1.29

Service Type	Satellite					
	Urban			Rural		
	Paramedic			Paramedic		
	DS	OH	SS	DS	OH	SS
ANC 1st visit	12.01	62.15	1.01	11.28	74.15	1.44
ANC revisit	11.39	50.78	1.14	11.55	70.91	1.44
PNC 1st visit	9.86	49.62	1.21	12.57	106.47	0.35
PNC revisit	7.68	37.31	0.65	6.58	42.34	0.62
PAC						
RTI/STI	7.53	43.79	0.91	7.72	60.85	0.81
Menstrual disorder	4.89	21.97	0.58	11.35	81.83	0.3
TT	4.78	25.4	0.49	4.5	51.16	1.04
FP counseling	5.34	33.71	0.46	6.21	42.28	0.99
Oral pill	4.73	24.31	0.41	5.19	42.86	0.7
Condom	4.02	23.12	0.26	4.31	42.85	0.91
Injectable	6.96	28.31	0.6	5.16	34.15	0.35
IUD						
Norplant				5.44	46.28	0.91
PLTM						
Side effect management	10.03	36.87	0.56	6.77	61.87	1.43
ARI	23.33	78.19	1.61	10.1	57.18	0.54
CDD	11.28	45.79	0.79	3.73	45.28	0.91
EPI	6.3	42.19	0.77	2.91	31.3	0.69
TB						
LCC	10.69	42.96	0.89	5.84	10.76	0.71

For doctor in urban static, the highest share of OH is found for PLTM (84%) and lowest for PAC (52%), and for doctor in rural static the same is found for Menstrual disorder (90%) and Norplant (83%). In case of paramedic in the urban static, the highest share of OH is found for CDD (92%) and lowest for RTI/STI (75%). For paramedic in rural static, treatment of CDD (93%) has the highest share for OH, IUD (90%) has the lowest share. Similarly, in urban satellite, the highest share of OH is observed for EPI (86%) and lowest for PAC (64%). In rural satellites, CDD (91%) has the highest share for OH, LCC (62%) has the lowest. It reveals that in the unit costs of service provided by doctor in rural static, the share of OH generally is more compared to doctor in urban static.

Data show that in unit cost for a particular service, ANC 1st visit for example, the share of OH for doctor in urban static is about 76%, and about 89% for doctor in rural static; the same for paramedic in urban static is about 77%, in rural static about 92%; and the same for paramedic in urban satellite is 83%, and in rural satellite 85%. It explains why the unit cost for doctor in urban static of all services type is less as compared to the same by doctor and paramedic in rural static.

Such scenario also indicates that with similar number of customers in urban and rural static (served by doctor), the unit cost of services type provided by the doctors in rural will be at higher side in all instances due to higher share of OH. On the other hand, if the number of customers served by doctor in rural static goes down as compared to that of doctor in urban—the difference in unit cost for the same will further increase in favor of doctor in urban static. For paramedics in rural static the implications are similar.

The DS share for doctor in urban static varies between Tk. 4.72 (for TB) and Tk. 25.55 (for PLTM) which are about 12 % and 9% of their unit cost. The OH share of these two services is Tk. 31.48 (79%) and Tk. 245.77 (84%), and the share of SS is Tk. 3.45 (9%) and Tk. 20.83 (7%) respectively. This implies that proportion of DS, OH and SS in unit cost follows similar pattern.

It is to note that the number of customer is the key determinant for lowering the OH part in the unit cost of services type, and therefore, the absolute number of customer is the key determinant of lowering the unit cost. The results of a simulation exercise related with the behavior of unit cost and its OH part are presented in Table 5.4. Total cost of doctor-delivered LCC in a day in urban static is Tk. 526.41 and the same rural static is Tk. 579.76. The shares of cost centers DS, OH and SS in unit cost for doctor in urban static are Tk. 10.82 (17%), Tk. 45.53 (72%) and Tk. 6.90 (11%). The same for doctor provided LCC in rural static are Tk. 10.90 (12%), Tk. 73.70 (83%) and Tk. 4.31 (5%) respectively.

The OH part in total cost is independent of number of customers (OH activities by definition does not have any definite relation with customer. Total time and/or FTE spent on account of OH activities will be same for any number of customers). However, the DS and SS parts in total cost vary depending on the number of customer. DS FTE is based on time spent in contact with the customer. The more the customers are in number the provider has to spend more total contact time, other things being the same. Similarly, total time and/or FTE spent in SS depend on the number of customers. The exercise is done assuming that average unit direct contact time remains unchanged. Similar assumption has been applied for SS. Therefore the unit DS and SS cost remain same, and the total cost of OH part also remained same. It is assumed that the number of LCC customers increased in both the clinics (in urban static 10 customers instead of 8.32, and in rural also 10 customers instead of 6.52).

The result of the simulation exercise shows that with the increase in number of LCC customers in both urban and rural static, total DS and SS cost for LCC proportionately go up. The total cost of doctor provided LCC in urban static, after the increase, amounts of Tk. 556.10 instead of Tk. 526.41. Similarly, the total cost of doctor provided LCC in rural static also increases in accordance with the increase in total DS and SS costs. Now, for estimating the unit cost, the total cost is divided by changed number of customers. The result shows about 12% decrease in unit cost of LCC in urban static and about 29% decrease in rural static. The share of OH in unit cost decreased both in relative and absolute terms. The OH part in new unit cost of LCC in urban static amounts to Tk. 37.88 (68%) and that was Tk. 45.53 (72%) before. In rural static, the OH part in unit cost decreases by about 7 percentage points. However, the relative share of DS and SS in unit cost increases in both the instances.

Table 5.4: Comparison of unit cost of LCC

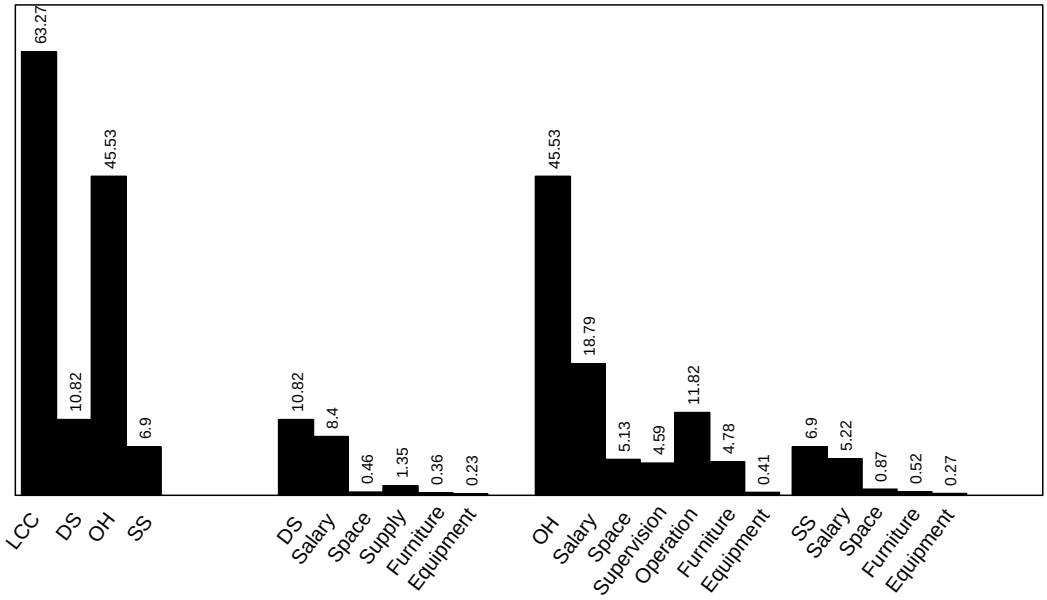
	Doctor in urban static		Doctor in rural	
	Actual scenario	Simulated scenario	Actual scenario	Simulated scenario
Total cost of LCC (Tk)	526.41	556.01	579.76	632.62
DS share in total cost (Tk)	90.02	108.2	71.07	109
OH share in total cost (Tk)	378.81	378.81	480.52	480.52
SS share in total cost (Tk)	57.41	69	28.10	43.1
Unit Cost (Tk)	63.27	55.60	88.92	63.26
DS share in unit cost (Tk)	10.82	10.82	10.90	10.9
OH share in unit cost (Tk)	45.53	37.88	73.70	48.05
SS share in unit cost (Tk)	6.90	6.9	4.31	4.31
# of customers	8.32	10	6.52	10

Source: Estimated by study team on the basis of survey data

Unit cost of a service contains all related costs incurred in three cost centers (DS, OH and SS). Each cost centre includes the following cost components: (i) recurring, and (ii) capital. Recurring part of unit cost comprises of five sub-components: (i) salary, (ii) space, (iii) clinical supply and logistics, (iv) NGO supervision, and (v) operation cost; and capital part in the context of the study comprises two sub-components: (i) furniture, and (ii) equipment. It is to note that the composition of recurring part varies by cost centers (Figure 5.3).

As depicted in Figures 5.3 and 5.4 the share of DS in unit cost of doctor provided LCC in urban static is 17% (Tk. 10.82), share of OH and SS are 72% (Tk. 45.53) and 11% (Tk. 6 .90). Estimates show that the share of capital component in unit cost for cost centers DS and SS is about 1% of the unit cost. However, for OH, the share of capital cost component is about 8%.

Figure 5.3: Distribution of unit cost by cost centers and cost components

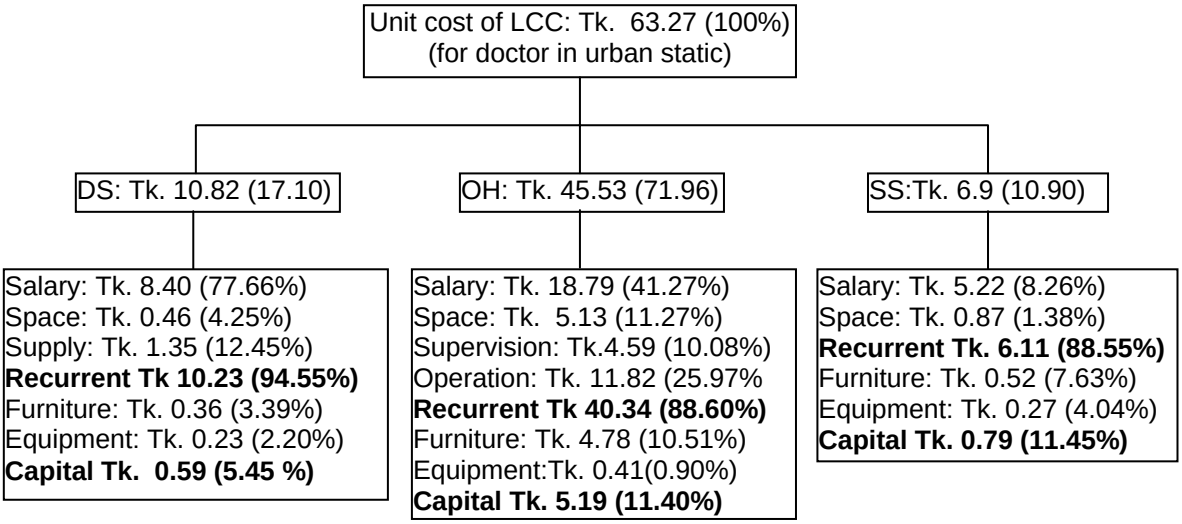


The share of salary sub-component in unit cost, across the cost centers, is the highest. For DS, the salary part amounts to Tk. 8.40 (13% of unit cost or 78% of DS). For the cost center SS, the share of salary is equally high. However, 30% unit cost of doctor provided LCC in static accounts for salary in OH cost center. The salary sub-component of DS cost center comprises of the provider's salary for the service. For cost center SS, it comprises relevant portions of provider's, counselor's or Lab technician's salary. Similarly, the salary part of cost center OH comprises apportioned amount of salary of all relevant staff involved in overhead activities.

Further analysis of cost centre shows that the share of operational cost of the static clinic is the second highest sub-component in cost center OH (Tk. 11.82 or 19% of the unit cost). The shares space, furniture and NGO supervision of clinic management mounted for OH in unit cost of doctor provided LCC in urban static ranges between 7% and 8%. The share of space mounted in cost centers DS (apportioned amount of space used by the doctor for providing the service) and SS (apportioned amount of space used by doctor, counselor and lab. technician for providing support services to LCC patients) is negligible (0.7% and 1.4% of the unit cost).

Estimates further show that Tk. 63.27 is spent for providing LCC to one customer in urban static by a doctor, where 51% (Tk. 32.43) is spent on account of salary, 19% (Tk.11.82)on account of operational cost of the clinic, 10% (Tk. 6.46) for space, 9% (Tk. 5.67) for furniture, 7% (Tk. 4.59) for NGO supervision, and about 3% for other purposes. The ratio of recurrent to capital cost is about 91:9, and this pattern of (high) recurrent to capital cost holds true for all three cost centres (Figure 5.4).

Figure 5.4: Distribution of unit cost by cost centers and cost components



Distribution by components (unit cost of LCC)

Salary:	32.43	51.25
Space:	6.46	10.21
Supply	1.35	2.13
NGO supervision:	4.59	7.25
Operation:	11.82	18.68
Recurrent	**57.50**	**90.50**
Furniture:	5.67	8.96
Equipment:	0.92	1.45
Capital	**5.76**	**9.10**

It appears that there is hardly any scope for lowering the cost of DS, as the contact time of the provider is the basis of estimating the same. Moreover, if provider follows the standard time, the DS part will automatically increase (the quality of the service will also increase). The SS part has been estimated partly on the basis of time spent and apportioned FTE applicable for providing the service. Therefore, the scope for further decrease in SS cost is very limited. Moreover, the total share of SS part in unit cost is not that big. It is revealed that the golden reserve for lowering the unit cost lies with the cost center OH. It is already discussed earlier (Table 5.4) that the number of customer is the key determinant for bringing down the share and amount of OH in unit service and, thereby, to bring down the unit cost. However, some cautious and rational adjustments of subcomponents like operational cost and cost of NGO supervision may also be helpful in this regard.

Table 5.5: Percentage distribution of unit cost of services type by cost centers

	Static												Satellite					
	Urban						Rural						Urban			Rural		
	Doctor			Paramedic			Doctor			Paramedic			Paramedic			Paramedic		
	DS	OH	SS	DS	OH	SS	DS	OH	SS	DS	OH	SS	DS	OH	SS	DS	OH	SS
ANC 1st visit	13.36	76.44	10.20	10.99	77.21	11.80	6.95	89.04	4.01	6.66	91.56	1.78	15.98	82.68	1.34	12.98	85.36	1.66
ANC revisit	14.11	76.03	9.87	10.07	77.11	12.82	6.24	88.09	5.67	7.94	90.83	1.22	17.99	80.21	1.80	13.84	84.96	1.20
PNC 1st visit	16.83	74.38	8.80	13.55	78.24	8.21				6.52	92.62	0.86	16.25	81.76	1.99	10.53	89.18	0.29
PNC revisit	15.81	75.33	8.86	9.26	79.02	11.73	5.16	87.26	7.58	6.34	91.78	1.88	16.83	81.75	1.42	13.28	85.47	1.25
PAC	34.40	52.35	13.25	5.20	88.41	6.39							35.31	63.84	0.85			
RTI/STI	20.70	70.51	8.79	10.94	74.94	14.12	10.22	86.41	3.38	6.97	91.47	1.56	14.42	83.84	1.74	11.13	87.71	1.17
Menstrual disorder	15.67	72.28	12.04	10.39	78.81	10.80	7.20	90.14	2.67	4.23	93.05	2.72	17.82	80.07	2.11	12.14	87.54	0.32
TT	12.46	78.80	8.74	7.90	81.84	10.25				8.09	90.42	1.48	15.59	82.82	1.60	7.94	90.23	1.83
FP counseling	16.00	72.11	11.89	8.07	83.71	8.22				5.79	92.32	1.89	13.52	85.32	1.16	12.55	85.45	2.00
Oral pill				9.12	81.21	9.68				6.36	92.21	1.43	16.06	82.55	1.39	10.65	87.92	1.44
Condom				9.29	82.12	8.60				4.55	92.34	3.11	14.67	84.38	0.95	8.97	89.14	1.89
Injectable	12.32	81.03	6.65	8.77	79.83	11.40	4.73	87.17	8.09	6.67	91.36	1.97	19.40	78.92	1.67	13.01	86.11	0.88
IUD				9.98	77.28	12.74				7.98	89.60	2.42						
Norplant	19.13	60.01	20.86	9.10	76.26	14.64	14.55	82.57	2.88	2.82	94.89	2.29				10.34	87.93	1.73
PLTM	8.75	84.12	7.13	7.03	84.35	8.62												
Side effect management	18.64	67.08	14.28	11.65	83.85	4.51	12.39	83.82	3.80	5.97	92.73	1.31	21.13	77.69	1.18	9.66	88.30	2.04
ARI	16.21	71.39	12.39	9.38	76.88	13.74	12.46	83.93	3.62	5.37	92.64	2.00	22.62	75.82	1.56	14.89	84.31	0.80
CDD	15.89	73.74	10.37	5.11	92.58	2.31	9.30	88.24	2.46	4.35	93.44	2.21	19.50	79.14	1.37	7.47	90.71	1.82
EPI	10.00	81.34	8.66	8.12	83.20	8.68				8.09	91.02	0.88	12.79	85.65	1.56	8.34	89.68	1.98
TB	11.90	79.39	8.70	11.35	76.34	12.31												
LCC	17.11	71.98	10.91	12.24	75.82	11.94	12.26	82.89	4.85	6.56	92.01	1.43	19.60	78.77	1.63	33.74	62.16	4.10

Table 5.6: Statistics of unit cost (DS and OH parts only) of services type by cost centers

	Rural Satellite Paramedic ANC 1st visit unit cost (DS+OH)	Rural Satellite Paramedic ANC 1st visit DS	Rural Satellite Paramedic ANC 1st visit OH	Rural Satellite, Paramedic PNC 1st visit unit cost(DS+OH)	Rural Satellite Paramedic PNC 1st visit DS	Rural Satellite Paramedic PNC 1st visit OH	Rural Satellite Paramedic FP unit cost (DS+OH)	Rural Satellite Paramedic FP DS	Rural Satellite Paramedic FP OH	Rural Satellite Paramedic LCC unit cost (DS+OH)	Rural Satellite Paramedic LCC DS	Rural Satellite Paramedic LCC OH	Rural Static Doctor ANC First Visit unit cost (DS+OH)	Rural Static Doctor ANC 1st visit DS	Rural Static Doctor ANC 1st visit OH	Rural Static Doctor LCC unit cost (DS+OH)	Rural Static Doctor LCC DS	Rural Static Doctor LCC OH
Mean	68.8	8.6	59.0	16.2	1.7	14.5	19.4	2.4	16.6	55.8	6.2	48.9	152.8	8.3	135.6	123.6	10.7	106.2
Std. Deviation	58.7	7.0	51.3	45.4	4.6	40.7	28.7	3.8	24.6	29.10	2.6	27.0	158.1	8.3	136.6	69.2	1.2	62.8
CV	85.3	80.9	87.1	278.9	269.8	280.3	148.1	155.7	148.5	52.1	41.4	55.3	103.4	100.5	100.7	56.0	9.3	59.2

	Rural Static Paramedic ANC 1st visit unit cost (DS+OH)	Rural Static Paramedic ANC 1st visit DS	Rural Static Paramedic ANC First Visit OH	Rural Static Paramedic PNC 1st visit unit cost (DS+OH)	Rural Static Paramedic PNC 1st visit DS	Rural Static Paramedic PNC 1st visit OH	Rural Static, Paramedic FP unit cost (DS+OH)	Rural Static Paramedic FP DS	Rural Static Paramedic FP OH	Rural Static Paramedic LCC unit cost (DS+OH)	Rural Static Paramedic LCC DS	Rural Static Paramedic LCC OH	Urban Satellite Paramedic ANC First Visit Unit Cost (DS+OH)	Urban Satellite Paramedic ANC First Visit DS	Urban Satellite Paramedic ANC First Visit OH	Urban Satellite Paramedic PNC First Visit Unit Cost (DS+OH)	Urban Satellite Paramedic PNC First Visit DS	Urban Satellite Paramedic PNC First Visit OH	Urban Satellite Paramedic FP Unit Cost (DS+OH)	Urban Satellite Paramedic FP DS	Urban Satellite Paramedic FP OH	Urban Satellite Paramedic LCC Unit Cost (DS+OH)	Urban Satellite Paramedic LCC DS	Urban Satellite Paramedic LCC OH
Mean	126.0	8.0	115.7	54.5	3.3	50.7	37.0	2.0	34.2	123.4	7.9	113.4	56.7	10.1	45.7	14.6	2.4	11.8	16.1	2.1	13.8	61.3	10.4	50.0
Std. Deviation	97.4	5.5	89.5	82.2	5.0	76.9	90.5	4.6	84.1	61.7	5.2	56.7	55.3	12.0	44.9	25.8	4.7	20.9	29.7	3.8	26.4	80.0	10.4	71.5
CV	77.4	68.1	77.3	150.7	148.4	151.8	244.5	43.5	245.5	49.9	65.5	50.0	97.7	119.4	98.3	176.6	190.	176.8	183.8	173.5	191.5	130.5	99.9	142.9

	Urban Static Doctor ANC 1st visit unit cost (DS+OH)	Urban Static Doctor ANC 1st visit DS	Urban Static Doctor ANC 1st visit OH	Urban Static Doctor PNC 1st visit unit cost (DS+OH)	Urban Static Doctor PNC 1st visit DS	Urban Static Doctor PNC 1st visit OH	Urban Static Doctor FP 1st visit unit cost (DS+OH)	Urban Static Doctor FP 1st visit DS	Urban Static Doctor FP First visit OH	Urban Static Doctor LCC 1st visit Unit Cost (DS+OH)	Urban Static Doctor LCC 1st visit DS	Urban Static Doctor LCC 1st visit OH	Urban Static Doctor TB 1st visit Unit Cost (DS+OH)	Urban Static Doctor TB 1st visit DS	Urban Static Doctor TB 1st visit OH	Urban Static Paramedic ANC First Visit Unit Cost (DS+OH)	Urban Static Paramedic ANC First Visit DS	Urban Static Paramedic ANC First Visit OH	Urban Static Paramedic PNC First Visit Unit Cost(DS+OH)	Urban Static Paramedic PNC First Visit DS	Urban Static Paramedic PNC First Visit OH	Urban Static. aramedic FP Unit Cost (DS+OH)	Urban Static Paramedic FP DS	Urban Static Paramedic FP OH	Urban Static Paramedic LCC Unit Cost (DS+OH)	Urban Static Paramedic LCC DS	Urban Static Paramedic LCC OH	Urban Static, Paramedic TB Unit Cost (DS+OH)	Urban Static Paramedic TB DS	Urban Static Paramedic TB OH
Mean	53.0	8.8	38.0	19.4	3.2	14.4	10.1	1.6	7.0	69.4	12.0	49.8	16.4	2.4	12.5	62.8	6.3	49.2	12.0	1.4	9.7	22.3	1.8	18.7	52.6	4.7	41.8	12.4	1.0	9.8
Std. Deviation	61.6	10.0	46.1	30.1	5.1	23.1	25.0	4.4	16.8	31.3	6.7	24.4	31.8	5.1	24.1	52.6	5.2	42.0	23.7	3.2	19.2	46.0	3.7	39.5	41.2	3.7	32.8	26.4	2.0	21.0
CV	116.3	114.1	121.3	155.5	160.1	160.5	247.9	261.9	240.4	45.2	55.8	49.0	193.3	208.9	193.6	83.8	82.1	85.6	196.7	235.0	196.9	205.8	203.1	211.8	78.5	77.1	78.7	211.2	200	214.4

With a view to verify stability in cost structure we have calculated CVs of DS and OH part of unit cost by services. As seen is Table 5.6, highest instability in unit cost is for PNC 1st visit OH with rural satellite paramedic (CV=280%) and the second highest is also for same provider for unit cost (278.9%). However, highest stability is for rural static Doctor LCC DS (CV only 9.3%).

5.3. Reasons for Variation in Unit Cost by Services Type

Unit cost of a service type varies by clinics even if the type of service provider remains the same. This section explores the issue why unit cost of a service varies in different clinics although there are similarities in clinic type (static/satellite), location (urban/rural) and types of provider (doctor/paramedic).

Cost estimation exercise revealed that highest the unit cost of doctor provided LCC was Tk. 165.62 in urban static clinic A, and the lowest was Tk. 25.94 in urban static clinic B (Figure 5.5). Clinic A served 2 LCC customers and B served 10 customers (both by doctors). The unit cost of clinic A is 6.4 times higher than that in clinic B, while the number of customer in clinic A is 5 times less than in clinic B. The estimated total cost for doctor provided LCC in clinic A is Tk. 331.24, which is about 22% points less in clinic B (Table 5.7).

Two following scenarios were explored for understanding the reasons for variations of doctor provided unit cost of LCC in these clinics.

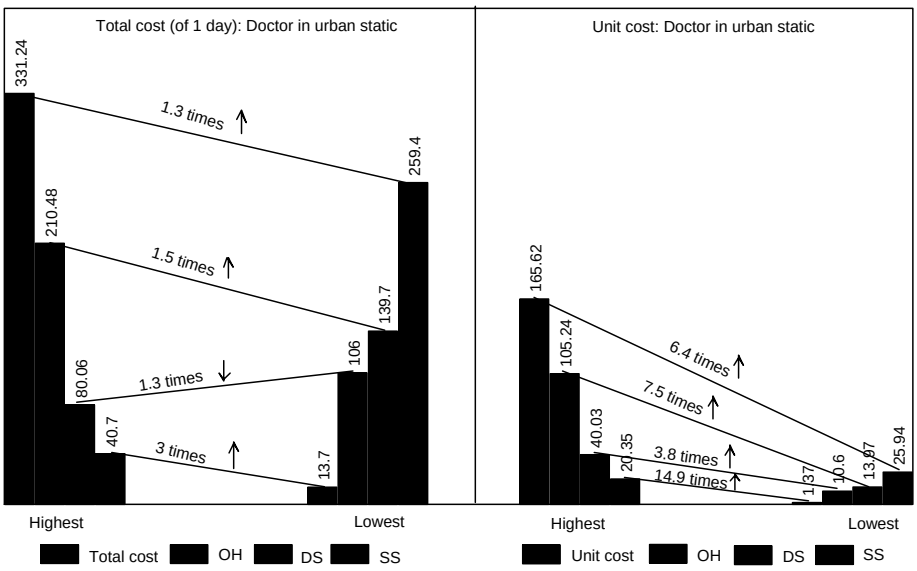
Scenario I: Total cost of LCC is same

Assuming that the total cost of the service in both the clinics is Tk. 331.24 (same to that of clinic A) and the number of customer remains at the observed level, the unit cost of the service in clinic B will be Tk. 33.12 (which is still 5 times less than the unit cost in clinic A).

Scenario II: number of LCC customer in both the clinics is same

Assuming that the number of customer in both the clinics is 10 and the total cost of the service remains at the observed level (Tk 331.24 in clinic A and Tk. 259.40 in clinic B), the unit cost of the service in clinic A will reduce to Tk. 33.12 (higher than in clinic B).

Figure 5.5: Differentials of unit cost of LCC with doctor as provider



Cost center wise analysis shows that the total OH cost and total SS cost in clinic A are higher than the same in clinic B. The total DS cost in clinic A is less than that in clinic B. This implies that clinic A uses less FTE of doctor for providing treatment of LCC compared to clinic B.

Analysis of composition of total cost of LCC for both the clinics further reveals that the total OH cost in clinic A is 1.5 times higher that that in clinic B. OH part in both the clinics is composed of 6 components. For five components of OH cost center, it is found that in each of those components clinic A spends more compared to clinic B. Total OH salary cost for LCC in clinic A is 1.6 times higher, total OH space cost 1.8 times and total operational cost applicable for LCC is 2.8 times higher than those in clinic B. In total OH cost attributable for LCC, clinic A spends about Tk. 71 more than that in clinic B.

Similarly, in cost center SS, clinic A spends 3 times more than the clinic B. Although there are three components in this cost center, the SS salary component is the most predominant. Total SS salary cost on account of doctor provided LCC in clinic A is also 3 times higher than clinic B.

All these findings imply that the unit cost of doctor provided LCC in clinic A justifiably reflects the higher spending at the cost center and component level.

Table 5.7: Two extreme scenarios of unit cost of doctor provided LCC in urban static

(in Tk.)

Indicators	Clinic A (highest)		Clinic B (lowest)	
	Unit cost	Total cost	Unit cost	Total cost
	165.62	331.24	25.94	259.4
DS Cost		80.06		106
Salary	33.82	67.64	9.47	94.7
Space	2.78	5.56	0.7	7
Supply			0.12	1.2
Furniture	1.85	3.7	0.24	2.4
Equipment	1.58	3.16	0.07	0.7
OH Cost		210.48		139.7
Salary	28.95	57.9	3.69	36.9
Space	24.39	48.78	2.75	27.5
NGO supervision	16.9	33.8	4.32	43.2
Operational Cost	25.31	50.62	1.78	17.8
Furniture	6.98	13.96	1.19	11.9
Equipment	2.71	5.42	0.24	2.4
SS Cost		40.7		13.7
Salary	18.12	36.24	1.2	12
Space	1.17	2.34	0.11	1.1
Furniture	1.06	2.12	0.06	0.6
# of customers	2		10	
Total Cost		331.24		259.4

5.4. Average Cost by Services Type – Pattern

The study estimated **cost of downtime** by services type. The estimates include the salary paid to the provider, cost of space, furniture and equipment not utilized due to downtime. The total downtime of the provider is allocated between services type.

Table 5.8 shows the cost of down time by services type by providers and by type of clinics aggregated for urban and rural locations. Clinic wise detailed estimation of the same is presented in **volume 2** (Annex Tables). Cost of downtime varies across services type, by type of providers, clinics and locations.

For doctor, in urban static, the cost of downtime varies by services type between Tk. 0.55 (TT) and Tk.17 (PNC revisit). The same for doctor in rural static ranges between Tk. 3.34 (injectable) and Tk. 12.44 (ANC 1st visit). Similarly, the cost of downtime for paramedic in urban static clinic varies between Tk. 0.09 (PAC) and Tk. 8.45 (IUD), and for paramedic in rural static the same ranges between Tk. 0.71 (EPI) and Tk 12.61 (IUD).

It is found that cost of downtime of services in both the urban and rural satellite clinics are by and large low compared to static clinics. Thus, cost of downtime for urban satellite ranges between Tk. 0.21 (Menstrual disorder) and Tk. 4.34 (LCC); and for rural satellite the range for the same is between Tk.0.25 (EPI) and Tk. 2.58 (ANC 1st visit).

Table 5.8: Down time cost of services type by providers at service delivery points (static and satellite) in urban and rural set-up

Services type	Static						Satellite	
	Doctor		Paramedic		Counselor/Clinic Aide		Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
ANC 1st visit	10.25	12.44	5.51	7.06			3.9	2.58
ANC revisit	11.04	10.13	6.74	4.34			3.53	1.99
PNC 1st visit	6.77		1.97	5			1.91	1.35
PNC revisit	19.17	11.73	5.06	4.18			1.84	0.59
PAC	1.67		0.09					
RTI/STI	11.93	9.1	5.26	8.19			1.31	1.56
Menstrual disorder	9.96	6.22	2.06	4.57			0.21	1.1
TT	0.55		2.45	3.41			1.83	0.31
FP counseling	5.14		1.55	7.12	2.63	3.12	0.68	1.38
Oral pill			1.83	4.25	3.38	4.2	1.69	1.28
Condom			1.18	6.79	9.1	1.95		1.84
Injectable	1.28	3.34	5.11	5.77			3.07	1.69
IUD			8.45	12.61				
Norplant	6.24	6.4	6.84	1.16				0.59
PLTM	0.94		8.32					
Side effect management	5.88	4.22	1.08	3			0.93	1.48
ARI	11.54	6.78	2.53	2.72			2.42	0.43
CDD	4.73	3.41	0.76	3.53			0.73	0.17
EPI	4		2.16	0.71			1.12	0.25
TB	5.62		5.14					
LCC	14.86	6.91	3.49	4.74			4.34	1.54

It is to note that the decrease in cost of downtime occurs only with the decrease of downtime. There might be three scenarios: (i) number of customer increases and unit time by services type remains same, (ii) unit time by services type increase and number of customer remain same, and (iii) both number of customer and unit time by services type increase. The first scenario leads to decrease in both unit cost and cost of downtime, however quality of services remains at the same level (because current unit patient contact time is generally less than standard time). The second scenario leads to increase in quality and decrease in cost of down time. While the third scenario leads to both increase in quality of services and decrease in unit cost as well as cost of downtime.

Average cost of a service type comprises all costs that are actually incurred in the process for providing the service. Average cost consists of unit cost (actual time and material directly and indirectly used) and cost of downtime. Therefore, average cost denotes the actual amount of resources spent by the clinic for providing any type of unit service.

Average cost likewise unit cost and cost of downtime vary by services type, providers, clinic and location (Table 5.9). The share of unit cost of services type in average cost varies between 79% (doctor provided PNC revisit in urban static) and 99.68% (doctor provided PLTM in urban static). Overwhelmingly, the share of unit cost in average cost irrespective of services type, provider, clinic and location is around 90% and above. Unit cost being the decisive component of average cost is the main determinant of relative size of average cost.

Although it appears that the cost of downtime in ideal situation should always tend to zero with the increase of the customer, in real life situation there must be some permissible limit of cost of down time. Because in a normal workday an about 60 minutes time will be required for providers for lunch and other health breaks. Moreover, downtime on account of waiting for customers is a non-comfortable phenomenon for the provider. Therefore, some amount of providers' time will be lost even if the time of the provider is organized ideally.

Table 5.9: Average cost of services type by providers at service delivery points (static and satellite) in urban and rural set-up

Services type	Static						Satellite	
	Doctor		Paramedic		Counselor/Clinic Aide		Paramedic	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
ANC 1st visit	107.91	191.48	80.58	139.19			79.08	89.46
ANC revisit	85.42	192.64	85.79	117.91			66.85	85.87
PNC 1st visit	65.55	0	52.53	134.6			62.61	120.76
PNC revisit	90.84	300.69	75.84	152.13			47.49	50.14
PAC	72.23	0	66.01	0			209.24	0
RTI/STI	85.3	151.02	90	189.6			53.555	70.95
Menstrual disorder	81.22	145.71	84.42	187.84			27.66	94.58
TT	66.6	0	48.39	89.05			32.51	57.02
FP counseling	65.51	0	81.37	194.04	63.11	164.48	40.21	50.87
Oral pill	0	0	65.89	106.49	49.63	116.32	31.15	80.03
Condom	0	0	60.64	226.67	91.72	113.63	27.41	79.92
Injectable	67.2	204.67	69.17	118.71			38.96	41.36
IUD	0	0	147	201.17			0	0
Norplant	82.76	105.61	89.62	67.13			0	53.22
PLTM	293.09	0	481.91	0			0	0
Side effect management	76.67	97.46	83.6	130.91			48.4	71.56
ARI	75.69	85.61	95.58	127.03			105.55	68.26
CDD	72	73.82	67.86	160.65			58.6	50.1
EPI	57.81	0	52.29	70.8			50.39	35.16
TB	45.28	0	43.82	0			0	0
LCC	78.13	95.83	52.34	95.12			58.89	48.86

CHAPTER SIX
STANDARD TIME

This chapter deals with the issue of standard time for services provided in NSDP clinics. This is first of its kind exercise in Bangladesh.

On observation by the trained physicians of HDRC through 'Format F' for the whole day (8 hours working time of 9 A.M. to 5 P.M.) in the Smiling Sun clinics a huge amount of downtime has been affirmed that can be utilized for provision of quality service. The total volume of customer (flow) was also not up to the mark to attain a sustainable course in future, although this forms a prime goal of all the NSDP NGOs. HDRC team examined the downtime issue by putting standard time against actual service time for the day of observation, assuming that the service providers have given less than standard time. It has been assumed that visiting patients taking 'standard time' (with maintaining quality) will not only reduce downtime, it will also help in enhancing customer flow which is one of the burning issues of NSDP clinics for its sustainability. It will also help examine whether more doctor will be needed or not for providing service in compliance with standard time and enhance customer flow.

6.1. Standardized Time by Services Type: Issues on Methodology and Outcomes

Although there is a universal standard and protocol for provision of the services for NSDP as such standard time by services is not available. For example, we know how the antenatal care service is to be provided and what protocol is to be followed: This is because we have some government and NSDP approved protocol for this purpose. But it does not guide anywhere regarding how much time is to be taken (i.e, standard time) for ANC services, especially in history taking, physical examination, note taking, review of records, counseling, prescription writing, etc. Therefore, an attempt has been made in this study to work out standard time for each service provided in NSDP clinics. Such standard time has been worked out using Delphi Method the process and steps followed as follows:

1. 'Format J'—the 'Guideline and Checklist for Bringing out Standard Time' was used that contained list of services (with their subhead) provided by NSDP clinics for which the time is utilized. The 'Format J' was sent to listed service providers (doctors and paramedics) of the NSDP clinics. Each provider was requested to sent their inputs to HDRC using the self-addressed stamped envelope. The providers who failed to return their format were reminded over telephone. Out of 80 "Format J' originally sent to 80 providers opinion was received from 74 providers.
2. After the receipt of inputs from 70 providers (first round input), those were compiled (with outliers excluded) as the **1st round average** Standard time by specific services and its sub-heads.
3. The results of the first round were sent to the 74 providers who responded in first round for their opinion on standard time by services and by sub-heads (sub-components) for their 2nd round opinion on it. The providers who failed to return their opinion in the 2nd round were reminded through telephone. This time we opinion was received from 28 providers.
4. The opinion thus collected from the NSDP service providers was compiled in HDRC. This compilation formed the **2nd round average** suggested time required in Standard Situation by specific services and its sub-heads.

5. In addition to these, another 8 service providers from Radda MCH Center (outside NSDP system) was observed by trained physicians of HDRC and NSDP to bring out a sense of standard time in a situation of "training and service delivery system outside NSDP".

6. Compiled average suggested time required in standard situation – 1st and 2nd round was then discussed in a Consensus Workshop situation on August 24, 2005 (with those service providers who participated in the 2nd round, participants from training organization-Radda MCH Center), the NSDP observer physicians and researchers from Research Triangle Institute. The main purpose of the workshop was to reach consensus on standard time for each of the services.

7. In workshop, the summarized results of 1st and 2nd rounds were presented and methodology explained to the participants. As this was the final attempt towards consensus, the final reactions of the participants were taken through group discussion, and voting or quantitative forecasting.

8. In the workshop, the participants were divided into 5 groups-- 1 doctor group, 3 paramedics group and 1 Radda MCH group. Each group was given specific service areas to workout.

9. Their voting or forecasting was then totalled to bring out the 'final standard time'.

10. Each group in the workshop, after group brainstorming, presented their results, and these were discussed at length to reach consumers on standard time for each service.

The standard time for unit contact obtained in the Ist Round, 2nd round, and suggested standard time worked out through consensus in the Workshop is presented in Table 6.1.

Table 6.1. Standardized Time by Services type (by Components): Outputs of first and second round, and consumed building workshop under Delphi exercise.

Services	Average Time Reqd. in Standard Situation (time in minutes)		
	Obtained Average (1st Round)	2nd Round Suggested Time	Workshop Suggested time
a. Antenatal Care (ANC)- First visit			
1. History taking	3	3	3
2. Reviewing of records	2	2	2
3. Writing notes	2	2	2
4. Physical examination	4	4	5
5. Routine laboratory test	8	7	8
6. Writing prescription	2	2	2
7. Verbal advice/ Instruction to client	3	2	2
Including (Routine laboratory test) Total	24	22	24
Excluding (Routine laboratory test) Total	16	15	16
b. Antenatal Care (ANC)- Revisit			
1. History taking	2	2	2
2. Reviewing of records	1	1	1
3. Writing notes	2	1	1
4. Physical examination	4	4	5
5. Routine laboratory test	6	5	5
6. Writing prescription	2	2	2
7. Verbal advice/ Instruction to client	2	2	2
Including (Routine laboratory test) Total	19	17	18
Excluding (Routine laboratory test)Total	13	12	13
c. Postnatal Care (PNC)- First visit			
1. History taking	3	3	3
2. Reviewing of records	2	2	2
3. Writing notes	2	2	2

Services	Average Time Reqd. in Standard Situation (time in minutes)			
	Obtained Average (1st Round)	2nd Round Suggested Time	Workshop Suggested time	
4. Physical examination	4	4	4	
5. Physical examination of newborn	4	4	4	
6. Writing prescription	3	3	3	
7. Verbal advice/ Instruction to client	3	3	3	
Total	21	21	21	
d. Postnatal Care (PNC)- Revisit				
1. History taking	2	2	2	
2. Reviewing of records	1	1	1	
3. Writing notes	2	2	2	
4. Physical examination	3	3	3	
5. Physical examination of newborn	3	3	3	
6. Writing prescription	2	2	2	
7. Verbal advice/ Instruction to client	3	2	2	
Total	16	15	15	
e. RTI/STI- First visit				
1. History taking	4	4	4	
2. Reviewing of records	2	2	2	
3. Writing notes	2	1	2	
4. Physical examination	5	5	5	
5. Writing prescription	2	2	2	
6. Verbal advice/ Instruction to client	3	3	3	
Total	18	17	18	
f. RTI/STI- Revisit				
1. History taking	2	2	2	
2. Reviewing of records	1	1	1	
3. Writing notes	1	1	1	
4. Physical examination	4	4	4	
5. Writing prescription	2	2	2	
6. Verbal advice/ Instruction to client	3	2	3	
Total	13	12	13	
g. Post Abortion Care (PAC)				
1. History taking	4	2	2	4
2. Reviewing of records	2	1	1	2
3. Writing notes	1	1	1	3
4. Physical examination	5	3	3	5
5. Pre-procedural preparation	3	2	2	6
6. Perform procedure	3	2	2	10
7. Post-procedure confinement	1	1	1	5
8. Writing prescription	2	1	1	3
9. Verbal advice/ Instruction to client	2	1	1	2
Total	23	14	14 (Ref.)	40 (Procd.)
h. TT to non-pregnant woman				
1. History taking	2	2	2	
2. Reviewing of records	1	1	1	
3. Writing notes	2	1	2	
4. Provision of TT vaccine	2	2	2	
5. Verbal advice/ Instruction to client	2	2	2	
Total	9	8	9	
i. TT to pregnant woman				
1. History taking	2	2	2	
2. Reviewing of records	1	1	1	
3. Writing notes	2	1	2	
4. Provision of TT vaccine	2	2	2	
5. Verbal advice/ Instruction to client	2	2	2	
Total	9	8	9	
Family Planning (FP) Services:				
a. Provision of Condom				
1. History taking	2	2	2	
2. Reviewing of records	2	1	1	
3. Writing notes	1	1	1	

Services	Average Time Reqd. in Standard Situation (time in minutes)		
	Obtained Average (1st Round)	2nd Round Suggested Time	Workshop Suggested time
4. Provision of Condom	2	2	2
5. Verbal advice/ Demonstration to client	3	3	3
Total	10	9	9
b. Emergency Contraceptive Pill (ECP)			
1. History taking	3	2	3
2. Reviewing of records	1	1	1
3. Writing notes	1	1	1
4. Writing prescription	2	2	2
5. Observing intake of first doze of pill	1	2	1
6. Verbal advice/ Instruction to client	2	2	2
Total	10	10	10
c. FP Side-effect Management			
1. History taking	3	3	3
2. Reviewing of records	2	1	1
3. Writing notes	2	1	2
4. Physical examination	3	3	3
5. Procedure (if any)	3	3	3
6. Writing prescription	2	2	2
7. Verbal advice/ Instruction to client	2	2	2
Total	17	15	16
d. Injectable (New Customer)			
1. History taking	3	3	3
2. Reviewing of records	2	1	2
3. Writing notes	2	2	2
4. Physical examination	3	2	3
5. Providing the first injection	2	2	2
6. Verbal advice/ Instruction to client	3	2	3
Total	15	12	15
e. Injectable (Old Customer)			
1. History taking	2	1	1
2. Reviewing of records	1	1	1
3. Writing notes	1	1	1
4. Physical examination	2	2	2
5. Providing the first injection	2	2	2
6. Verbal advice/ Instruction to client	2	2	2
Total	10	9	9
f. Intra Uterine Device (IUD)- Insertion			
1. History taking	4	3	3
2. Reviewing of records	2	2	3
3. Writing notes	2	2	2
4. Physical examination	5	4	5
5. Pre-procedural preparation	4	3	3
6. Perform procedure	7	6	6
7. Post-procedure confinement	3	3	3
8. Writing prescription	2	2	2
9. Verbal advice/ Instruction to client	3	3	3
Total	32	28	30
g. Intra Uterine Device (IUD)- Removal			
1. History taking	3	3	3
2. Reviewing of records	2	2	2
3. Writing notes	2	2	2
4. Physical examination	4	3	5
5. Pre-removal preparation	3	3	2
6. Removal procedure	3	3	2
7. Post-removal confinement	3	2	3
8. Writing prescription	2	2	2
9. Verbal advice/ Instruction to client	3	2	3
Total	25	22	24
h. Tubectomy (Minilap)			
1. History taking	6	3	4
2. Reviewing of records	3	2	2

Services	Average Time Reqd. in Standard Situation (time in minutes)		
	Obtained Average (1st Round)	2nd Round Suggested Time	Workshop Suggested time
3. Writing notes	4	2	3
4. Physical examination	7	4	5
5. Pre-procedural preparation	28	13	18
6. Perform procedure	28	13	25
7. Post-procedure confinement	14	6	10
8. Writing prescription	3	1	3
9. Verbal advice/ Instruction to client	6	2	3
Total	99	46	73
i. Vasectomy (NSV)			
1. History taking	5	2	3
2. Reviewing of records	2	1	2
3. Writing notes	5	2	2
4. Physical examination	5	2	3
5. Pre-procedural preparation	9	4	5
6. Perform procedure	19	7	10
7. Post-procedure confinement	5	2	2
8. Writing prescription	2	1	3
9. Verbal advice/ Instruction to client	3	1	2
Total	55	22	32
j. Norplant Implantation			
1. History taking	4	4	4
2. Reviewing of records	2	2	2
3. Writing notes	3	2	2
4. Physical examination	4	3	3
5. Pre-procedural preparation	6	5	5
6. Perform procedure	11	8	8
7. Post-procedure confinement	3	3	3
8. Writing prescription	2	2	2
9. Verbal advice/ Instruction to client	3	2	2
Total	38	31	31
k. Norplant Removal			
1. History taking	3	3	3
2. Reviewing of records	2	2	2
3. Writing notes	2	2	2
4. Physical examination	3	2	2
5. Pre-procedural preparation	6	5	5
6. Perform procedure	13	10	12
7. Post-procedure confinement	3	3	3
8. Writing prescription	2	2	2
9. Verbal advice/ Instruction to client	3	2	2
Total	37	31	33
l. Oral Pill- New Customer			
1. History taking	3	3	3
2. Reviewing of records	2	2	2
3. Writing notes	2	2	2
4. Physical examination	3	3	3
5. Verbal advice/ Instruction to client	3	2	2
Total	13	12	12
m. Oral Pill- Old User			
1. History taking	2	2	2
2. Reviewing of records	1	1	1
3. Writing notes	1	1	1
4. Physical examination	3	2	3
5. Verbal advice/ Instruction to client	2	2	2
Total	9	8	9
Child Health Services:			
a. Acute Respiratory Infection (ARI)			
1. History taking	3	3	3
2. Reviewing of records	2	1	1
3. Writing notes	2	2	2

Services	Average Time Reqd. in Standard Situation (time in minutes)		
	Obtained Average (1st Round)	2nd Round Suggested Time	Workshop Suggested time
4. Physical examination	4	4	5
5. Writing prescription	2	2	2
6. Verbal advice/ Instruction to client	2	2	2
Total	15	14	15
b. Diarrhoeal Diseases			
1. History taking	4	4	4
2. Reviewing of records	2	1	2
3. Writing notes	2	2	2
4. Physical examination	3	3	3
5. Writing prescription	2	2	2
6. Verbal advice/ Instruction to client	2	2	2
Total	15	14	15
c. Immunization (DPT, DT & Polio)			
1. History taking	3	2	2
2. Reviewing of records	2	2	2
3. Writing notes	2	2	2
4. Administering Vaccine	3	2	3
5. Verbal advice/ Instruction to client	2	2	2
Total	12	10	11
d. Immunization (only Hepatitis B)			
1. History taking	2	2	2
2. Reviewing of records	2	2	2
3. Writing notes	2	2	2
4. Administering Vaccine	2	2	2
5. Verbal advice/ Instruction to client	2	2	2
Total	10	10	10
e. Immunization (DPT, DT, Polio & Hepatitis)			
1. History taking	-	-	2
2. Reviewing of records	-	-	2
3. Writing notes	-	-	2
4. Administering Vaccine (DPT,DT,Polio & Hepatitis)	-	-	3+2
5. Verbal advice/ Instruction to client	-	-	2
Total	-	-	13
Limited Curative Care (LCC)			
a. Common Cold			
1. History taking	2	2	2
2. Reviewing of records	1	1	1
3. Writing notes	2	2	2
4. Physical examination	3	3	3
5. Writing prescription	2	2	2
6. Verbal advice/ Instruction to client	2	2	2
Total	12	12	12
b. GIT Diseases			
1. History taking	3	2	2
2. Reviewing of records	1	1	1
3. Writing notes	2	1	2
4. Physical examination	3	3	3
5. Writing prescription	2	2	2
6. Verbal advice/ Instruction to client	2	2	2
Total	13	11	12
c. Skin Diseases			
1. History taking	2	2	2
2. Reviewing of records	1	1	1
3. Writing notes	2	1	1
4. Physical examination	2	2	2
5. Writing prescription	2	2	2
6. Verbal advice/ Instruction to client	2	2	2
Total	11	10	10
d. Helminthiasis			
1. History taking	2	2	2

Services	Average Time Reqd. in Standard Situation (time in minutes)				
	Obtained Average (1st Round)	2nd Round Suggested Time		Workshop Suggested time	
2. Reviewing of records	1	1		1	
3. Writing notes	1	1		1	
4. Writing prescription	2	2		2	
5. Verbal advice/ Instruction to client	2	2		2	
Total	8	8		8	
e. Anaemia					
1. History taking	2	2		2	
2. Reviewing of records	1	1		1	
3. Writing notes	1	1		1	
4. Physical examination	3	2		2	
5. Writing prescription	2	2		2	
6. Verbal advice/ Instruction to client	2	2		2	
Total	11	10		10	
Communicable Diseases					
a. Tuberculosis					
1. History taking	4	3	3	5	-
2. Reviewing of records	2	2	2	5	2
3. Writing notes	3	2	3	3	1
4. Physical examination	4	3	3	6	1
5. Writing prescription/DOTS Adminstr.	2	2	2	4	2 (DOTS)
6. Verbal advice/ Instruction to client	2	2	2	2	1
Total	17	14	15 Ref.)	25 (Trt.)	7 (DOTS)
b. Malaria					
1. History taking	3	3		3	
2. Reviewing of records	2	1		1	
3. Writing notes	2	1		1	
4. Physical examination	4	3		4	
5. Writing prescription	2	2		2	
6. Verbal advice/ Instruction to client	2	2		2	
Total	**15**	**12**		**13**	

Source: Format J (Ist round, 2nd round, and Final round-Delphi workshop)

Note:
R= Referral; Trt= Treatment; DOTS= Only DOTS Administration

6.2. Standard and Observed Unit Contact Time

The study has identified that for all services the observed (actually provided) unit contact time across the providers is less than the standard time (Table 6.2). The exceptions are doctor provided PNC revisit in rural static clinic and provisioning of condom by paramedics in rural static clinic. It is found that the doctor in rural static clinic on average spent 0.6 minutes more than the standard time (15 minutes). Similarly, the paramedic in rural static clinic spent 2.6 minutes more for provisioning of condom, than the time required according to the standard.

However, in two more occasions the variation between the two times categories (i.e, standard time versus observed time) differ by 1 minute. For doctor provided injectable in rural static, and paramedic provided treatment of RTI/STI in rural static clinics the observed unit contact time is found almost identical to the standard time. In these occasions, the observed unit contact time is less than the standard respectively by 0.6 minutes and 0.2 minutes.

In five occasions the variations between observed average contact time and standard time is found in the range of 1 to 2 minutes (paramedic provided injectable and ANC revisit in rural static, paramedic provided oral pill in urban static and ANC revisit in rural satellite).

The estimated variations between observed average unit time and standard time indicate important service delivery implications for the program managers and the service providers.

Table 6.2: Variation between standard and observed time by unit service type by service delivery points (static and satellite) and by providers in urban and rural clinics

Service Type	Standard time	Doctor				Paramedic Static				Paramedic Satellite			
		Urban		Rural		Urban		Rural		Urban		Rural	
		Actual	Variation	Actual	Variation	Actual	Variation	Actual	Variation	Actual	Variation	Actual	Variation
ANC 1st visit	16 (24)	10.2	5.8	9.8	6.2	9.3	6.7	11.5	4.5	10.9	5.1	11	5
ANC revisit	13 (16)	8.4	4.6	9.1	3.9	8.7	4.3	11.3	1.5	8.9	4.1	11	2
PNC 1st visit	21	6.8	14.2	-	-	6.5	14.5	10.3	10.7	7.9	13.1	11.7	9.3
PNC revisit	15	7.8	7.2	15.6	-0.6	6.2	8.8	11	4	6.9	8.1	6.5	8.5
PAC	40	24.8	15.2	-	40	0.9	39.1	-	-	13.5	26.5	-	-
RTI/STI	18	13	5	10.6	7.4	10.5	7.5	17.8	0.2	8.9	9.1	7.7	10.3
Oral pill	9 (new 12)	-	9	-	-	7.4	1.6	7	2	4	5	5.3	3.7
Injectable	9 (new 15)	6.8	2.2	8.4	0.6	5.9	3.1	7.9	1.1	5	4	5.3	3.7
TT	9	-	-	-	-	-	-	8.2	0.8	2.6	6.4	2.9	6.1
IUD/PLTM	30 (removal 24)	16.1	13.9	-	-	17.1	12.9	17.5	12.5	-	-	-	-
Norplant	31 (removal 33)	12.1	18.9	11.3	19.7	8.7	22.3	-	-	-	-	5.7	25.3
FP Side-effect management	16	10.2	5.8	-	-	7.8	8.2	9.8	6.2	-	-	6.2	9.8
ARI	15	7.4	7.6	6.5	8.5	10.5	4.5	8.2	6.8	7.9	7.1	8.6	6.4
CDD	15	9.3	5.7	4.1	10.9	4.7	10.3	7.7	7.3	4.6	10.4	3.5	11.5
EPI	13	3.4	9.6	-	-	3.7	9.3	6.2	6.8	5	8	2	11
Condom	9		9	-	-	4	5	11.8	-2.8	3	6	4.2	4.8
TB	25 (15)	4	21	-	-	3.4	21.6	-	-	-	-	-	-

6.3. Scopes for Increasing Providers Contact Time

Estimates were made assuming that the providers served same number of customers as on the day of observation and spent standard time instead of observed unit contact time. The results of the estimation (Table 6.3) depict that in order to comply with the norm of 'standard time' each provider will need an additional time ranging between 44 minutes (paramedic in rural static) and 162 minutes (doctor in rural static). It is to note that all the providers have adequate reserve (in the form of downtime) for meeting the additional required time.

The quality of services in NSDP clinics may be improved further if the recommended standard time is followed. Improved quality, in its turn, will most likely attract more customers in future and contribute to the sustainability of the clinics.

Table: 6.3: Estimates on total time required according to standard and observed actual total time by services type and providers in urban and rural static clinics

Service Type	Urban Static				Rural Static			
	Doctor		Paramedic		Doctor		Paramedic	
	Observed actual total time (minutes)	Total time required according to standard (minutes)	Observed actual total time (minutes)	Total time required according to standard (minutes)	Observed actual total time (minutes)	Total time required according to standard (minutes)	Observed actual total time (minutes)	Total time required according to standard (minutes)
ANC 1st visit	16.12	25.28	16.46	28.32	14.90	24.32	25.42	35.36
ANC revisit	13.27	20.54	14.88	22.23	12.01	17.16	17.40	20.02
PNC 1st visit	3.74	11.55	3.77	12.18	0.00	0.00	5.15	10.50
PNC revisit	4.29	8.25	10.42	25.2	8.11	7.80	16.50	22.50
PAC	0.74	1.2	0.03	1.2	0.00	0.00	0.00	0.00
RTI/STI	7.93	10.98	3.68	6.3	5.51	9.36	5.16	5.22
Oral pill	0.00	0	1.92	2.34	0.00	0.00	4.06	5.22
Injectable	1.56	2.07	25.49	38.88	4.37	4.68	31.60	36.00
TT	0.00	-	0.00	20.34	0.00	0.00	4.43	4.86
Norplant	1.57	4.03	2.26	8.06	3.62	9.92	0.00	2.48
FP Side-effect management	3.26	5.12	1.01	2.08	0.00	5.12	2.84	4.64
ARI	15.02	30.45	3.36	4.8	18.46	42.60	8.20	15.00
CDD	4.84	7.8	0.14	0.45	2.13	7.80	2.23	4.35
EPI	0.99	3.77	21.50	75.53	0.00	0.00	0.81	1.69
Condom	0.00	0	0.52	1.17	0.00	0.00	1.53	1.17
TB	4.92	30.75	2.96	21.75	0.00	0.00	0.00	0.00
Total	78.26	161.79	108.39	270.83	69.11	128.76	125.33	169.01
Additional time needed to comply with standard	83.53		162.44		59.65		43.68	
Down time available	170.13		188.41		158.00		177.63	

CHAPTER SEVEN

CUSTOMER PERCEPTION SURVEY

7.1. Socio-economic Status of Customers

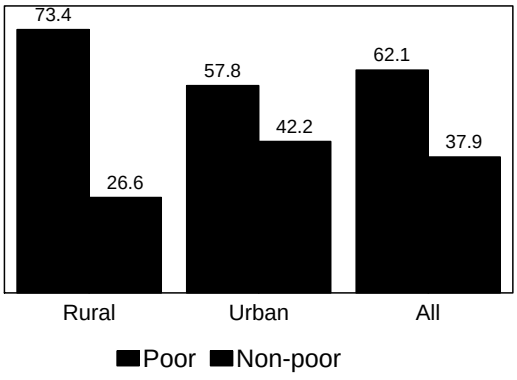
In the process of assessing status of staff utilization and cost structure of NSDP clinics a customer survey was conducted using exist interview format. Such survey was conducted in static clinics only. Altogether 516 customers were interviewed. In the beginning we present a brief analysis of personal profile of the respondents. Among 516 customers 28.5% were from rural static and 71.5% from urban static clinics. Modal age group is 23-30 years. Of all respondents 41% belong to this age group. Average age of respondents is around 28 years in both rural and urban areas. Age distribution shows positively skewed pattern with 75% below 30 years of age. Over 85% respondents are female (Table 7.1) and more males are in urban (16%) compared to rural (8%) clinics.

Table 7.1: Percentage distribution of respondents according to age and sex composition by location

Indicators	Rural		Urban		All	
	n	%	n	%	N	%
Age:						
15-22	47	31.97	132	35.77	179	34.75
23-30	58	39.46	152	41.19	210	40.73
31-38	31	21.09	40	10.84	71	13.71
39-46	7	4.76	29	7.86	36	6.95
47-54	2	1.36	9	2.44	11	2.12
55-62	2	1.36	4	1.08	6	1.16
63+	0	0.00	3	0.81	3	0.58
Average age (yrs)	27.07		27.62		27.23	
N	147	100.00	369	100.00	516	100.00
Sex:						
Female	135	91.84	308	83.47	443	85.91
Male	12	8.16	61	16.53	73	14.09
N	147	100.00	369	100.00	516	100.00

While 73% rural respondents have come out to be poor, 58% are so in urban area. On the whole, 62% respondents have come out to be poor. It may be noted that a customer has been identified to be poor based on the following criteria viz either customer has a VGD card or has no cultivable land or has no stable income or is a divorced/widowed/ separated woman. One noticeable observation is that a high proportion, 59% rural and 46% urban, respondents have no cultivable land. Similar statement is also true for stable income. For example, 33% rural and 20% urban respondents say that they do not have stable income.

Figure 7.1: Percent of poor-non poor customer by location



In both rural and urban segments, a very high proportion of respondents, 95% rural and 81% urban, are housewives. There are more diversity in occupation in urban areas compared to those in rural (Table 7.2). For example, only 1.36% in rural are in service, which is 6% in urban area. This is quite a normal phenomenon in the context of Bangladesh.

Table 7.2: Percentage distribution of respondents according to socio-economic status by location

Indicators	Rural		Urban		All	
	n	%	n	%	n	%
Poverty status						
Non-poor	39	26.6	156	42.2	195	37.9
Poor	104	73.4	223	57.8	327	62.1
N	147	100.0	369	100.0	516	100.0
Poverty criteria						
VGD card holder	4	2.72	2	0.54	6	0.98
Divorced/separated	5	3.40	8	2.17	13	2.52
Have no cultivable land	87	59.18	172	46.61	259	50.00
Have no stable income	49	33.33	71	19.24	120	23.55
Occupation						
Business	1	0.68	6	1.63	7	1.35
Do not work	0	0.00	1	0.27	1	0.19
Driver	0	0.00	1	0.27	1	0.19
Farmer	2	1.36	0	0.00	2	0.39
Home service	0	0.00	1	0.27	1	0.19
House wife	139	94.56	300	81.30	439	85.14
Labour	1	0.68	1	0.27	2	0.39
Maid servant	0	0.00	1	0.27	1	0.19
Old	0	0.00	4	1.08	4	0.77
Rickshaw puller	0	0.00	3	0.81	3	0.58
Service	2	1.36	21	5.69	23	4.44
Shopkeeper	0	0.00	1	0.27	1	0.19
Student	0	0.00	19	5.15	19	3.67
Tailoring	2	1.36	3	0.81	5	0.97
Teacher	0	0.00	1	0.27	1	0.19
Unemployed	0	0.00	3	0.81	3	0.58
Van puller	0	0.00	3	0.81	3	0.58
N	147	100.00	369	100.00	516	100.00

In the process of interviewing, respondents were asked about the types of services they came for. Although diversities in types of services sought are quite noticeable, some are more frequent than others. Besides, first visit and follow-up visits are almost equal in terms of occurrences of services sought but proportion of revisit is much higher than that of first visit. For example, 8.6% customer came for ANC first visit and it is 10% for revisit. For injectables such differences is still higher, 3% first visit and 13% revisit. Rural and urban areas do not differ much in this regard (Table 7.3). Most frequent types of services sought are ANC (first and revisit) (18.73%), RTI/STI – first visit and revisit (3.47%), injectable first and revisit (16.41%), ARI (5.02%), pregnancy test (6.6%), EPI (6.6%), general weakness (5.2%), TB (4.4%), skin disease (2.9%).

Table 7.3: Percentage distribution of respondents according to services sought by location

Indicators	Rural		Urban		All	
	n	%	n	%	n	%
Antenatal Care (ANC) - First visit	16	10.88	29	7.86	45	8.69
Antenatal Care (ANC) - Revisit	12	8.16	40	10.84	52	10.04
Emergency Obstetrical Care (EOC) - Cesarean Section	0	0.00	1	0.27	1	0.19
Postnatal Care (PNC) - First visit	4	2.72	11	2.98	15	2.90
Postnatal Care (PNC) - Revisit	1	0.68	2	0.54	3	0.58
Pregnancy Test	12	8.16	21	5.69	33	6.56
RTI/STI - New visit	0	0.00	1	0.27	1	0.19
RTI/STI - Revisit	3	2.04	14	3.79	17	3.28
Menstrual Disorders	2	1.36	6	1.63	8	1.54
Infertility	0	0.00	2	0.54	2	0.39
TT to non Pregnant Women	4	2.72	20	5.42	24	4.63
TT to Pregnant Women	3	2.04	8	2.17	11	2.12
Oral Pill - First visit	1	0.68	1	0.27	2	0.39
Oral Pill - Revisit	4	2.72	2	0.54	6	1.16
Condom - First visit	1	0.68			1	0.19
Condom - Revisit	1	0.68	4	1.08	5	0.97
Injectable - First visit	9	6.12	8	2.17	17	3.28
Injectable - Revisit	27	18.37	40	10.84	67	13.13
Intra Uterine Device (IUD) - follow up visit	1	0.68	1	0.27	2	0.39
Intra Uterine Device (IUD) - Removal	0	0.00	1	0.27	1	0.19
Norplant - follow up visit	0	0.00	4	1.08	4	0.77
Norplant - Removal	0	0.00	1	0.27	1	0.19
Tubectomy (Minilap)	0	0.00	1	0.27	1	0.19
FP Side-effect Management	3	2.04	11	2.98	14	2.70
General Family Planning counseling	6	4.08	5	1.36	11	2.12
Acute Respiratory Infection (ARI)	7	4.76	19	5.15	26	5.02
Control of Diarrhoeal Diseases (CDD)	0	0.00	2	0.54	2	0.39
EPI and/or other vaccines	5	3.40	29	7.86	34	6.56
Integrated Management of Childhood Illness (IMCI)	0	0.00	6	1.63	6	1.16
Anaemia	0	0.00	1	0.27	1	0.19
Bronchial Asthma	0	0.00	3	0.81	3	0.58
Diarrhoeal Diseases (Adult)	2	1.36	2	0.54	4	0.77
Diabetics	0	0.00	1	0.27	1	0.19
ENT Diseases (Tonsillitis, Laryngitis, Rhinitis, Sinusitis, Otitis Media/Externa etc.)	0	0.00	4	1.08	4	0.77
Eye Diseases (Red eye, Conjunctivitis etc.)	0	0.00	3	0.81	3	0.58
Fever (Non specific)	3	2.04	12	3.25	15	2.90
Gastritis and Peptic Diseases	1	0.68	1	0.27	2	0.39
General Weakness	13	8.84	14	3.79	27	5.21
Headache	2	1.36	2	0.54	4	0.77
Hepatitis/Hepatic Diseases	0	0.00	1	0.27	1	0.19
Hypertension	4	2.72	7	1.90	11	2.12
Intestinal Parasites	1	0.68	2	0.54	3	0.58
Non specific Abdominal pain	1	0.68	5	1.36	6	1.16
Non-specific lab test	2	1.36	2	0.54	4	0.77
Psycho-neurosis	0	0.00	1	0.27	1	0.19
Skin Diseases (Scabies, Impetigo, Abscess, fungal infection)	5	3.40	10	2.71	15	2.90
Upper Respiratory Tract Infection (Common Cold, Sore Throat, Pharyngitis, etc.)	1	0.68	10	2.71	11	2.12
Urinary Tract Infection	0	0.00	2	0.54	2	0.39
Vomiting	0	0.00	1	0.27	1	0.19
Loss and Equity interest	2	1.36	5	1.36	7	1.35
Burn	0	0.00	1	0.27	1	0.19
Eye Injury	0	0.00	1	0.27	1	0.19
Non-specific body ache/ joint pain	4	2.72	13	3.52	17	3.28
Wound with bleeding	1	0.68			1	0.19
left Ventricular failure	0	0.00	1	0.27	1	0.19
Tuberculosis	0	0.00	23	6.23	23	4.44
N	147	100.00	369	100.00	516	100.00

With respect to some services, rural and urban areas vary noticeably. For example, in rural areas ANC first visit (10.8%) is more than that of urban (7.8%). Just oppositely, in urban 11% is ANC revisit while it is 8% in rural area. Similar case is with pregnancy test. With respect to injectable revisit two areas differ very sharply, 18% rural and 11% urban. Likewise, sharp distinction exists between rural and urban areas in respect of EPI (3% rural and 8% urban), general weakness (3% rural and 4% urban). Although varieties of services are sought, some services are very thin in demand. For example, EOC is sought by only 0.19%, PNC 3%, RTI 0.19%, IUD 0.39%, Norplant 0.77%, CDD 0.39% Astonishingly, there was no single tuberculosis patient in rural clinics, but among urban customers, 6.2% were such customers.

7.2. Distance of Clinics, Traveling Mode, Time and Cost

In connection with assessing services sought and service deliveries, customers were inquired about their travels in terms of distance, mode of travel, time taken and cost incurred. It is observed that both in rural and urban areas average distance of travel of customers is around 2 Kms (1.6 Kms rural and 2.1 Kms urban) (Table 7.4). The most frequent modes of travel in rural area is walking (70%) while it is Rickshaw (49%) in urban areas and the least traveling mode is bus, 4.8% rural and 4% urban. As time costs money, so time taken by respondents to reach the clinics was also taken into account. Average time taken for rural respondents is 18 minutes to reach the clinic and it is 15 minutes in urban. This bears some relation with mode of travel. As rickshaw is the most popular vehicle in urban area and walking in rural, average time is generally more in rural area given that average distance is almost same in two areas. However, cost incurred in traveling differs highly between rural-urban segments. Average travel cost is Tk.2.5 in rural areas and it is Tk.4.8 in urban (Table 7.4). It may be mentioned that in rural Bangladesh modes of travel are not too many and rate of travel cost is also quite low compared to that in urban areas.

Figure 7.2: Percentage of respondents according to traveling distance by location

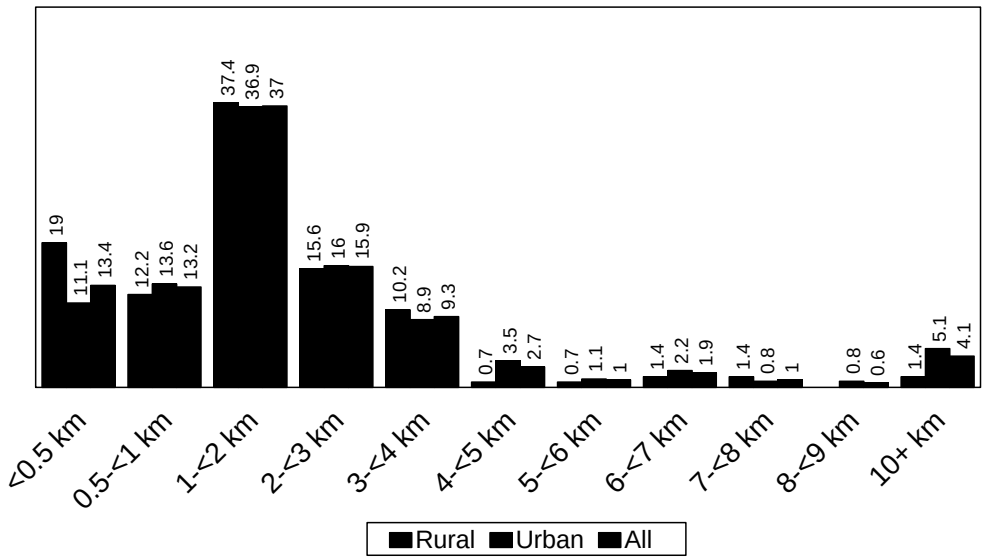
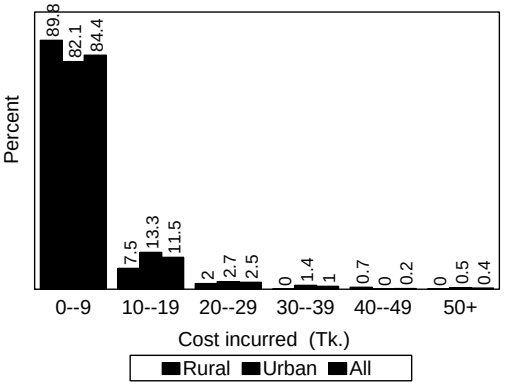


Table 7.4: Percentage distribution of respondents according to traveling distance, mode, time and cost by location

Indicators	Rural		Urban		All	
	n	%	n	%	n	%
<0.5 km	28	19.0	41	11.1	69	13.4
0.5-<1 km	18	12.2	50	13.6	68	13.2
1-<2 km	55	37.4	136	36.9	191	37.0
2-<3 km	23	15.6	59	16.0	82	15.9
3-<4 km	15	10.2	33	8.9	48	9.3
4-<5 km	1	0.7	13	3.5	14	2.7
5-<6 km	1	0.7	4	1.1	5	1.0
6-<7 km	2	1.4	8	2.2	10	1.9
7-<8 km	2	1.4	3	0.8	5	1.0
8-<9 km			3	0.8	3	0.6
10+ km	2	1.4	19	5.1	21	4.1
Average	1.5		2.2		2	
N	147	100.0	369	100.0	516	100.0
Mode of travel	12	8.16	34	9.21	46	8.88
Bus	25	17.01	179	48.51	204	39.58
Others	103	70.07	142	38.48	245	47.49
Rickshaw	147	100.00	369	100.00	516	100.00
N	81	55.10	230	62.33	311	60.23
Time taken (min)	31	21.09	81	21.95	112	21.81
2--12	20	13.61	34	9.21	54	10.42
13--22	2	1.36	6	1.63	8	1.54
23--32	5	3.40	4	1.08	9	1.74
33--42	5	3.40	9	2.44	14	2.70
43--52	0	0.00	1	0.27	1	0.19
53--62	0	0.00	0	0.00	0	0.00
63--72	3	2.04	1	0.27	4	0.77
73--82	0	0.00	3	0.81	3	0.58
83--92	17.63		14.80		15.58	
92+	147	100.00	369	100.00	516	100.00
N	132	89.80	303	82.11	435	84.36
Cost incurred (Taka)	11	7.48	49	13.28	60	11.58
0—9	3	2.04	10	2.71	13	2.51
10--19	0	0.00	5	1.36	5	0.97
20--29	1	0.68	0	0.00	1	0.19
30--39	0	0.00	2	0.54	2	0.39
40--49	2.54		4.79		4.15	
50+	147	100.00	369	100.00	516	100.00
N						

Over 70% rural customers incurred no cost to reach the clinic and it is so among 39% of urban customers. On the whole, 2% customers had to spend Tk.25+ as traveling cost, which is mostly due to urban cost for traveling. From this result it can be inferred that customers do not come from too far and it is more true in case of rural clinics. Regarding traveling cost it can be said that it is not too high. Thus, if emergency services like EOC, and others are introduced in all NSDP clinics, people will comfortably avail them.

Figure 7.3: Percentage of respondents according to traveling cost by location



7.3. Reasons for Choice of Visit Time

One important aspect of customer survey was to assess preference for visit time of customers. Definitely, peak-hour and off peak-hour services may differ remarkably. Thus, customers were asked about their sentiment and attitude towards time preference. Over 90% in rural area and over 88% in urban area consider that present visit time is convenient. Various reasons have been cited behind such convenience. For example, 87% rural and 78% urban respondents consider `present time is convenient' because of less pressure of housework.

About 25% of respondents on the whole consider this time is less crowded. Those who consider present time inconvenient, mainly consider household work, doctor's unavailability, crowds as reasons. For example, 42% of those rural customers who reported present time as inconvenient say, that doctors cannot give required amount of time and 55% urban customers tell about their household work. `Present time is a crowded one' is opined by 33% rural and 38% urban customers (Table 7.5).

Customers who consider present time as inconvenient were asked to express their choice for convenient time for visiting clinics. Exactly equal proportion of these rural customers make choice of morning shift and afternoon shift, 33.3% each. In urban area, majority of these customers, over 70%, gave choice for afternoon shift. Among reasons behind such choices, the most cited ones are, less crowd and convenience. While 67% of this group of rural customers consider afternoon to be less crowded, 40% of such urban customers do so. Over 58% of the groups of rural customers consider afternoon as convenient and 48% of such urban customers do so.

Table 7.5: Percentage distribution of respondents according to reasons for choosing current visiting time by location

Indicators	Rural		Urban		All	
	n	%	n	%	n	%
Current visiting time convenient						
No	12	8.16	48	13.04	60	11.80
Yes	135	91.84	320	86.96	455	88.20
N	147	100.00	368	100.00	515	100.00
Reasons for convenience (If Yes in 3.1)						
Easy to come after finishing household work	118	87.41	251	78.44	369	81.14
Less crowded	35	25.93	87	27.19	122	26.75
Doctor can give time	20	14.81	64	20.00	84	18.42
Quick service	18	13.33	39	12.19	57	12.50
Doctor is available	19	14.07	58	18.13	77	16.89
Can accompany neighbor to come	23	17.04	42	13.13	65	14.25
At this time persons available at home to look after children	2	1.48	22	6.88	24	5.26
Others	5	3.70	19	5.94	24	5.26
N	135	100.00	320	100.00	455	100.00
Reasons for inconvenience (if 3.1 in NO)						
Doctors can't afford time	5	41.67	7	14.58	12	19.67
Household work	4	33.33	29	60.42	33	54.10
Doctors unavailable at other time	5	41.67	8	16.67	13	21.31
Need to accompany children to school	0	0.00	10	20.83	10	16.39
Need to wail long	3	25.00	9	18.75	12	21.31
More crowded	4	33.33	13	27.08	17	27.87
Others	1	8.33	4	8.33	5	8.20
N	12	100.00	48	100.00	60	100.00
Choice of convenient time						
9.00-10.00	4	33.33	6	12.5	10	16.67
10.01-11.00	0	0.00	1	2.08	1	1.67
11.01-12.00	0	0.00	0	0.00	0	0.00
12.01-13.00	1	8.33	2	4.17	3	5.00
13.01-14.00	2	16.67	7	14.58	9	15.00
14.01-15.00	4	33.33	16	33.33	20	33.33
15.01-16.00	1	8.33	10	20.83	11	18.33
16.01+	0	0.00	6	12.50	6	10.00
Average	4.08		5.52		5.23	
N	12	100.00	48	100.00	60	100.00
Reasons of convenience						
Less crowded in the afternoon	8	66.67	16	33.33	24	40.00
Convenient in the afternoon	7	58.33	23	47.92	30	50.00
Less crowded around 9	3	25.00	6	12.50	9	15.00
Others	0	0.00	11	22.92	11	18.33
N	12	100.00	48	100.00	60	100.00

7.4. Perceptions about Peak Hours

In connection with various aspects of service timing, respondents were asked about their perception regarding peak hours and the associated reasons behind. According to majority of respondents, forenoon is considered to be the peak hours.

However, it is to note that respondents gave multiple answers. It is observed in Table 7.6 that 57% respondents consider 9-10 in the morning as the busiest hours and again 48% say 11-12 as the busiest hour. Similarly, 39% say 12-1 as the busiest hour. This could have

happened only because same person has considered more than one timing as peak hour. However, it is clear that service hours before noon are mostly considered as the peak hours and this is true for both rural and urban.

Perceived reasons behind such perceived peak hours are mostly as follows:

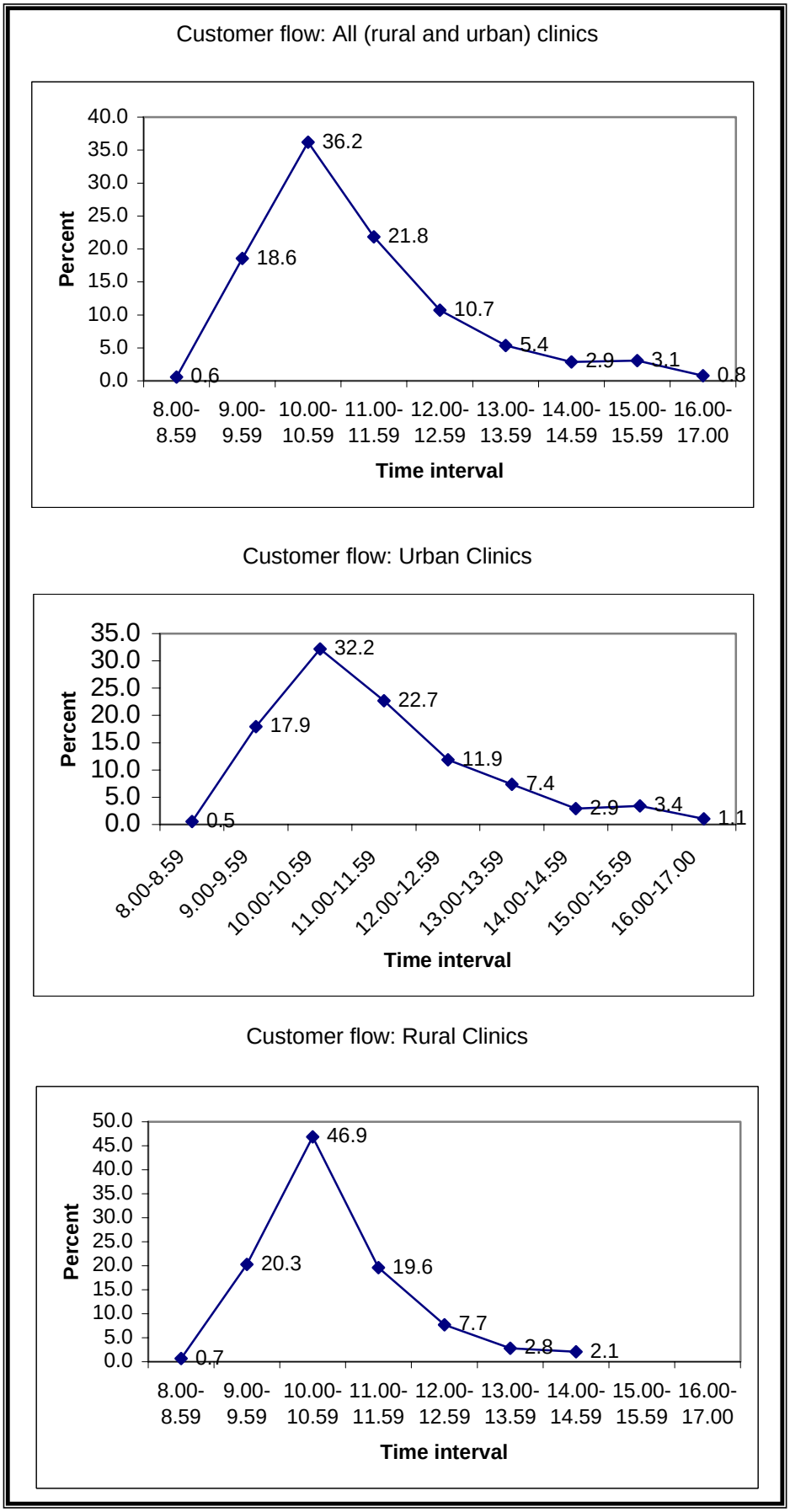
- No work at home
- "Better doctors" are available (meaning qualified MBBS doctor and not paramedic)
- No need to look after children at this time.

Table 7.6: Percentage distribution of respondents according to perceptions about peak hours and reasons behind visit during peak hours by location

Indicators	Rural		Urban		All	
	n	%	n	%	n	%
Perceived peak hours						
00:00-09:00	13	8.84	61	16.53	74	14.34
09:01:10:00	81	55.10	214	57.99	295	57.17
10:01-11:00	50	34.01	108	29.27	158	30.62
11:01-12:00	72	48.98	178	48.24	250	48.45
12:01-13:00	63	42.86	138	37.40	201	38.95
13:01-14:00	9	6.12	29	7.86	38	7.36
14:01-15:00	1	0.68	8	2.17	9	1.74
15:01-16:00	1	0.68	2	0.54	3	0.58
Average	1.00		1.00		0.72	
N	147	100.00	369	100.00	516	100.00
Reasons behind visit during peak hours						
No work at home	127	87.59	287	77.78	414	80.54
Better doctors available	31	21.38	92	24.93	123	23.93
Resting time for all	32	22.07	78	21.14	110	21.40
Taking medicines in the morning enables to understand status and comeback next day	15	10.34	62	16.80	77	14.98
Worried about less care later on	24	16.55	38	10.30	62	12.06
Doctors are exhausted in the afternoon	9	6.21	22	5.96	31	6.03
Need not look after children since they are at school	44	30.34	81	21.95	125	24.32
More homework in the afternoon	25	17.24	43	11.65	68	13.23
Neighbors come at this time	33	22.76	49	13.28	82	15.95
Appropriate timing for child vaccination	11	7.59	23	6.23	34	6.61
Possibility of being crowded later on	8	5.52	10	2.71	18	3.50
Others	5	3.45	20	5.42	25	4.86
N	145	100.00	369	100.00	514	100.00

From the Figure 7.5 given below, it is evident that the actual peak hour is between 9.00 am and 1:00 pm. During the most crowded hour i.e. between11:00 am to 12:00 pm in both rural and urban clinics, proportion of customers arriving (at this time) is about 47% of total in rural clinics and it is about 32% among urban customers. Flow of customers is concentrated more during 9 am – 1 pm and it is again more in rural clinics (94%) compared to that of urban (84%). All these indicate that spread of customer flow is more in urban clinics compared to that of rural clinics. It is also clear from off-peak hours customers flow. In the combined period 8-9 am and 1-5 pm proportion of customer flow is 14.4% in urban clinics and it is only 4.9% in rural clinics. Interestingly, there had been no customer after 3 pm in rural clinics.

Figure 7.4: Pattern of Customer Flow



7.5. Willingness to Visit Clinics During Non-peak Hours and Suggestions There for

Due to some reasons or others, some customers may be willing to visit clinics even during peak hours. Thus, customers were asked about their attitudes and willingness to visit clinics during non-peak hours. More than 81% rural customers and 75% urban customers are willing to take services in non-peak hours. Regarding reasons behind such choice, 79% rural customers consider `less crowd' and `less problems', 67% urban customers say so. About equal proportions of customers, 38% rural and 36% urban, consider that during non-peak hours doctors can give more time. `Better services' is also considered by large number of customers, 45% rural and 24% urban customers say so. Another reason is also very highly felt by customers i.e, 26% rural and 44% urban customers consider that there is no wastage of time during non-peak hours (Table 7.7). Interestingly, 93% rural and 87% urban from among those customers who do not prefer non-peak hours, express `no botheration about crowded hours' as well as `personal convenience' as reasons. However, a substantial proportion of customers are willing to visit clinics in non-peak hours.

Table 7.7: Percentage distribution of respondents according to perceptions about problems of peak hours and willingness to visit during non-peak hours by location

Indicators	Rural		Urban		All	
	n	%	n	%	n	%
Want visit during non-peak hours						
No	27	18.37	89	24.12	116	22.48
Yes	120	81.63	280	75.88	400	77.52
N	147	100.00	369	100.00	516	100.00
Reasons for preferring non-peak hours						
Less crowded and less problem	95	79.17	188	67.14	283	70.75
Can get more time with doctors	46	38.33	101	36.07	147	36.75
Doctors are attentive	40	33.33	72	25.71	112	28.00
Better services	54	45.00	68	24.29	122	30.50
When less crowded doctors are in good mood	10	8.33	43	15.36	53	13.25
No wastage of time	31	25.83	122	43.57	153	38.25
Others	0	0.00	4	1.43	4	1.00
N	120	100.00	280	100.00	400	100.00
Reasons for not preferring non-peak hours						
Self convenience and no botheration about crowded	25	92.59	77	86.52	102	87.93
No companion available	6	22.22	3	3.37	9	7.76
Whenever doctors are available it is crowdy	3	11.11	14	15.73	17	14.66
Same level of service at crowdy and non-crowdy hours	4	14.81	12	13.48	16	13.79
More works in the afternoon	3	11.11	11	12.36	14	12.07
Others	1	3.70	1	1.12	2	1.72
N	27	100.00	89	100.00	116	100.00

Various reasons are put forth for such choice and gist of reasons for being willing to visit clinics during non-peak hours is as follows:

- Less crowd
- More time from doctors
- Better services
- Less household work

Regarding making distribution of customer flow even over the working hours, customers were asked about their suggestions on `how to attract customers during non-peak hours?' Over 70% rural and 72% urban customers think that clinics can do something to attract customers during non-peak hours. A good number of suggestions came out of customers regarding this issue. Among both rural and urban customers, such suggestions are almost evenly distributed. For example, 33% rural customers consider better services and more contact time can attract customers during non-peak hours; and qualified doctors, reduced price and accepting whatever being paid by poor are also considered by 30%, 35% and 32% rural customers respectively. Above suggestions were also put forth by large number of urban customers as well and their proportions are similar to those among rural customers. For example, 35% rural customers consider reduced price can attract customers in non-peak hours and it is suggested by about 35% of urban customers. However, separate timing (appointment schedule) for individual customer is not suggested by many, only 13% each in rural and urban house suggested so (Table 7.8).

Table 7.8: Percentage distribution of respondents according to perceptions about attracting customers at non-peak hours by location

Indicators	Rural		Urban		All	
	n	%	n	%	n	%
Clinics can do something to attract customers during non-peak hours						
No	44	29.93	101	27.37	145	28.10
Yes	103	70.07	268	72.63	371	71.90
N	147	100.00	369	100.00	516	100.00
Types of suggestions						
If doctors give better services and more time	48	32.65	110	29.81	158	30.62
To increase number good doctors and make them available in the afternoon	43	29.25	109	29.54	152	29.46
Separate appointment schedule for individual patient	19	12.93	49	13.28	68	13.18
Reduced price for medicine	52	35.37	128	34.69	180	34.88
To accept whatever is paid by poor	47	31.97	107	29.00	154	29.84
Others	3	2.04	16	4.34	19	3.68
N	147	100.00	369	100.00	516	100.00

Various suggestions have been forwarded for attracting customers during non-peak hours, the gist are as follows:

- Ensure more direct contact time
- Ensure availability of qualified doctors
- Low cost or free services

Combining customer flow pattern and customer's willingness to visit clinics during off peak hours, one can conclude that customers have a positive feeling towards un-crowded hours. They want less crowded visiting hours. Although urban customers flow is spread over longer hours compared to rural even then they want off-peak hours and after noon hours. However, they are serious about good services at the same time. According to the opinions of customers, two things can make customers flow even over working hours and these are low prices and availability of qualified doctors. As long as good services at a lower cost are available, people will always have a tendency to visit clinics in off-crowded hours. As a result, provider's downtime will be less, average cost of services will come down, and due to increase in provider's contact time the unit contact time will tend to reach the standard time and therefore quality of services will improve further.

7.6. Key Findings and Recommendations

Key Findings

1. Varieties of services are sought both at urban and rural clinics.
2. In both rural and urban areas customers need not to travel too far and not have to incur too much travel costs.
3. Most of the customers consider their visit time convenient. Reasons behind such convenience are although their personal, the non-availability of doctors at other times is also mentioned by a high proportion of customers.
4. Customers mainly consider hours before noon to be peak hours at both urban and rural clinics.
5. Majority of both rural and urban customers are willing to avail services in off-peak hours for getting more time and better services from doctors. A substantial portion of customers consider `quality services' and `reduced price' to be factors for attracting customers in off-peak hours.

Recommendations

Facilitating access to services (increased service facilities) and provisioning good services at lower cost can supposedly make even distribution of customers over working hours. Moreover, spread of customers over time will reduce downtime as a result of which average cost of services will be lower and quality of services will improve further. This will ensure better staff utilization. Combining customer flow pattern and choice for convenient visit time, one can conclude that there is ample scope for spreading customer flow over working hours provided required opportunities are made available.

CHAPTER EIGHT

SPECIAL ISSUES

The study addressed some special issues like provisioning of medicine dispensing to NSDP customers, contact time during peak and non-peak hours, and providers attitude to poor and non-poor customers. Data were collected for exploring these issues using the customer activity log (Format E). Contact time has been treated as proxy indicator for understanding the providers' attitude to the poor. The current chapter delineates these special topics in following sections.

8.1. Medicine[1]: Prescribed, Purchased and Reasons for Non-purchase

All the NSDP clinics have the provision of dispensing medicine to their customers at a subsidized (lower than the market) rate. Two comprehensive lists[2] of medicines approved by NSDP were used for the purpose. The empirical data generated by using specially designed format (Format E) reveal that around one-fourth of the customers in the static clinic, and one-third in the satellite session were not prescribed any drugs (Table 8.1). These category of customers (as observed by the time motion observers) mainly come for EPI, TT, FP injections, FP counseling, and FP side effect management. Some of them come for routine follow-up check-up for ANC/PNC, IUD, Norplant and PLTM.

Table 8.1: Distribution of customer visits and status of dispensing by location and type of clinics

Type of customer	Static clinic		Satellite Session	
	Urban	Rural	Urban	Rural
Drugs prescribed	76	77	66	68
• All drugs purchased	14	16	16	19
• Partially purchased drugs	15	19	14	20
• No drugs purchased	47	42	36	29
No drugs prescribed	24	23	34	32
All customers	100 (1190)	100 (600)	100 (530)	100 (490)

Note: Figures in parenthesis indicates total number of customers

Less than one-fifth customers (ranging between 14% and 19%) across the type of service delivery points (static/satellite) and locations (urban/rural) purchase all prescribed drugs from NSDP sources (Table 8.1). Almost same proportion of customers (14% to 20%) partially purchases drugs. It is observed that in rural locations proportion of such customers is higher (about one-fifth) compared to urban location (about one-seventh). Investigation reveals that major reason for non-purchase is related to availability of money, more precisely related to non-availability of money in hand while in clinic. As reported by customers, more than 60% of non-purchase across the board occurs due to non-availability of sufficient money during the visit. Non-availability of prescribed medicines in NSDP clinic remotely follows the earlier reason for non-purchase (Table 8.2).

[1] Terms medicine and drugs has been used interchangeably

[2] One list specially developed for rural clinics, which contains the GOB recommended medicines for prescribing by the paramedics; and other list is for urban clinics.

Table 8.2: Reasons for non-purchase of drugs from NSDP clinics by location and type of clinics

Reasons for non purchase	Static clinic		Satellite Session	
	Urban	Rural	Urban	Rural
Medicine not available	15.08	15.29	7.32	8.89
Money not available now	60.06	64.33	75.61	61.11
Medicine available at home	8.66	8.28	6.50	13.33
Not enough time in hand to purchase	4.47	3.82	0.00	1.11
Bad dealings of staff	0.56	1.27	0.00	1.11
Price in clinic is high	0.84	1.27	0.81	1.11
Low quality of medicine	0.56	0.64	3.25	4.44
Medicine not require now	2.79	1.27	3.25	6.67
Medicine shop available close-to-home	6.98	3.82	3.25	2.22
All	100	100	100	100

A large share of the customers do not purchase medicine from NSDP. This is both in terms of physical quantity and financial amount.

It appears that all medicines prescribed is basically prescribed to three categories of customers: (i) customers who purchase all the medicines advised by the provider, (ii) customers who partially purchase, and (iii) customers who do not purchase. Investigation was not made to know the behaviors of the two later categories of customers regarding purchase from other pharmacies or not purchasing at all. Table 8.3 provides a snapshot of prescribed medicines by customer category of purchase. While, Table 8.4 depicts purchase of medicine and Table 8.5 addresses non-purchase.

Table 8.3: Distribution of prescribed drugs in Taka by location and type of clinics by categories purchase in all sample clinics

Categories of purchase	Static clinic		Satellite Session	
	Urban	Rural	Urban	Rural
Full purchased	11,626.30	5,452.72	3803.78	5278.1
Partial purchased	12,173.42	6,509.88	3317.25	5502.7
Not purchased	38,161.62	13,631.80	8492.16	7861
Total	61,961.34	25,594.40	15,613.19	18,641.80

Table 8.4: Distribution of purchased drugs in Taka by location and type of clinics by categories purchase in all sample clinics

Categories of purchase	Static clinic		Satellite Session	
	Urban	Rural	Urban	Rural
Full purchased	11,626.30	5,452.72	3803.78	5278.1
Partial purchased	1,908.16	1,254.24	1,050.00	2873.36
Total	13,534.46	6,706.96	4,853.78	8,151.46

Table 8.5: Distribution of prescribed but not purchased drugs in Taka by location and type of clinics by categories purchase in all sample clinics

Categories of purchase	Static clinic		Satellite Session	
	Urban	Rural	Urban	Rural
Partial purchased	10,265.26	5,255.64	2267.25	2,629.34
Not purchased	38,161.62	13,631.80	8492.16	7,861.00
Total	48,426.88	18,887.44	10759.41	10,490.34

Further inquiry on medicine dispensing reveals that the average amount of prescribed medicine to a customer varies by service delivery point and location (Table 8.6). On average drugs worth of about Tk. 68 is prescribed to a customer in urban static clinic (Tk. 44 in satellite session). A customer in both rural static clinic and satellite session is prescribed medicine amounting about Taka 56. An average customer in static clinics irrespective of locations purchases medicines worth of about Taka 15, while the same for urban satellite is Taka 14 and in rural satellite about Taka 25. It implies that in urban static clinics, an average customer does not purchase amounting about Taka 53 from NSDP (Table 8.5). The same for rural static clinic is about Taka 41, and it is around Taka 31 in satellite session.

Table 8.6: Distribution of average per customer prescribed, purchased and non-purchased drugs in NSDP clinics by locations and by type of clinics (Tk.)

Categories of purchase	Static clinic		Satellite Session	
	Urban	Rural	Urban	Rural
Prescribed	68.39	55.64	44.23	56.15
Purchased	14.94	14.58	14	24.55
Not purchased	53.45	41.06	30.23	31.6

The study reveals that the value of all drugs (in retail price) prescribed in an urban static clinic in a working day is Taka 1936.29 and about 22% of the same is purchased by the customers (Table 8.7). For rural static, the value of prescribed medicines is Taka 1066.43 and about 26% is realized. The realization scenario is comparatively high in satellite clinics (31% in urban and 44% in rural). The programmatic implication of stated realization of drugs indicates that the clinics have a large reserve for increasing their daily turnover from medicine sales, which in turn may accelerate the process of sustainability[3] of the clinics.

Table 8.7: Distribution of purchase and non-purchase of prescribed drugs per working day (in Taka): average scenario in static clinics and satellite sessions.

Categories of drugs	Static clinic		Satellite Session	
	Urban	Rural	Urban	Rural
Prescribed	1936.29 (100)	1066.43 (100)	487.91 (100)	847.35 (100)
Purchased	422.95 (21.8)	279.46 (26.2)	151.68 (31.1)	370.52 (43.7)
Not purchased	1513.34 (78.2)	786.98 (73.8)	336.23 (68.9)	476.83 (56.3)

Note: Figures in parenthesis represent percentage.

[3] A small amount of markup is mounted into NSDP clinics retail price.

8.2. Contact Time during Peak and Non-peak

It is widely believed that the providers give relatively less time to the customers during the peak hours, as they need to serve substantially large number within the particular interval of time. Similarly, it is expected that as there is less number of customers during the non-peak (i.e. the provider is relatively free), customer will be given more time. In order to understand the situation empirically, a supplementary research question was formulated to address the issue of provider's contact time during the peak and non-peak hours.

The findings here are contrary to the above commonsense belief. Analysis reveals that for almost all the services, across the static clinics and satellite sessions, the provider contact time during the non-peak is less compared to peak hours (Table 8.8). For example, an ANC first visit customer in static clinic is given about 18 minutes time during the peak while it is 14 minutes during non-peak. In satellite session a customer for the same service during the peak hours is given about 13 minutes and 11 minutes during the non-peak. On the whole, average contact time for any service in the static clinic during peak is about 12 minutes against 9 minutes during non-peak hours. The same in satellite sessions is about 7 minutes and 6 minutes respectively. Statistical test shows a significant difference between peak and non-peak hours' contact time across the service delivery points. This fortifies the findings reported in Chapter VII about willingness of the customers to visit the clinics during non-peak if more time (contact) is given by the provider is fortified.

Average contact time varies between peak and non-peak

In order to verify whether average contact time between peak and non-peak hours significantly differs or not, the test of hypothesis of no difference has been adopted. The results reveal that at 5% level of significance there is a significant difference between peak and non-peak hours contact time across the service delivery points. For example, for satellite sessions the t-ratio value is 3 and it is still more for static clinics (t = 14.5). Considering all clinics together t is 20.5.

However, it is to be noted that since, analysis of the composition of down time reveals that all other type of activities except waiting for client and the lunch break constitute less than 20% of the total downtime (Table 4.7), one should carefully analyze the provider's time spending during the workday and consider the recommended standard time of services type before recommending higher non-peak hour contact time than the peak hours.

Table 8. 8: Service type wise customer contact time in peak/non peak times at static and satellite clinics (in minutes).

Service type	All		Static		Satellite	
	Peak	Non-peak	Peak	Non-peak	Peak	Non-peak
ANC First visit	16.48	12.24	18.24	14.04	13.02	10.49
ANC Revisit	13.46	10.01	16.41	11.26	9.45	7.32
PNC First visit	10.96	10.32	13.62	10.32	7.64	
PNC Revisit	16.63	10.85	17.22	12.43	13.53	4.55
RTI/STI	12.46	11.10	17.04	13.43	7.20	7.38
Menstrual Disorder or Infertility	12.12	9.02	14.93	9.80	6.96	1.17
TT	5.03	5.23	5.68	5.77	3.06	3.61
Oral Pill	8.58	4.41	11.64	9.58	7.14	2.83
Injectable	7.47	5.70	10.65	7.34	5.73	4.39
IUD	14.57	15.12	16.51	15.12	0.95	
FP Side-effect Management	8.36	9.67	10.53	10.32	6.03	3.22
Family Planning counseling	8.55	6.32	8.97	7.78	7.75	3.41
ARI	10.50	13.13	10.96	14.02	8.16	8.70
CDD	11.66	8.04	13.21	7.77	2.33	11.60
EPI	5.70	4.04	6.85	4.23	2.69	2.55
Condom	9.54	6.82	12.73	12.40	6.35	1.23
LCC	10.41	7.55	12.09	8.57	6.56	5.88
TB	8.15	5.45	8.15	5.45		
All	9.79	7.70	11.75	8.92	6.68	5.60
N	1901	909	1165	573	736	336

8.3. Providers Attitude to Poor and Non-poor in terms of Contact Time

The study provided an opportunity to explore the providers' attitude towards the poor. In analyzing this, the contact time has been considered as the most appropriate proxy indicator for analyzing the attitude. A working definition of poor has been constructed using the NSDP recommended criteria for identifying least advantaged.

All customers who visited the service delivery points on the day of observation are grouped into two categories: (i) poor, and (ii) non-poor. The contact time of services type for each of the categories has been estimated for static clinic customers, satellite session customers, and all customers. Average contact time for most of the services across the service delivery points reveals that contrary to the common belief, the poor are not discriminated by the providers (Table 8.9). As for example, for ANC first visit, the customers from both the poor and non-poor categories are given almost equal time in static clinics and satellite sessions. The average contact time for any service in static clinic for both poor and non-poor is almost identical (10.73 minutes and 10.98 minutes). The same is true for satellite sessions (6.53 minutes and 6.01 minutes) and all clinics taken together (9.14 minutes and 9.06 minutes). The test of hypothesis of no difference confirms statistical insignificant differences between contact times (t values are close to zero) by services type and any service given to poor and non-poor for static clinics and satellite sessions.

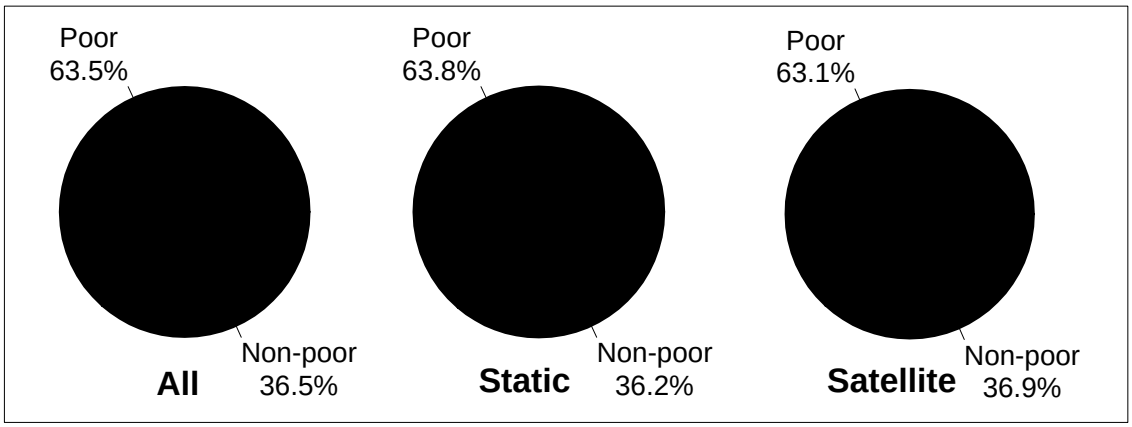
Table 8.9: Service type wise customer contact time to poor and non-poor at static and satellite clinics

Service type	All		Static		Satellite	
	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor
ANC First visit	15.99	13.81	17.74	16.22	13.24	10.19
ANC Revisit	11.90	13.06	14.23	15.10	8.51	9.54
PNC First visit	9.83	12.43	11.02	13.02	7.71	7.14
PNC Revisit	14.12	17.32	15.60	17.22	8.30	18.02
RTI/STI	11.43	13.14	14.40	18.50	7.26	7.25
Menstrual Disorder or Infertility	9.71	12.09	9.90	15.94	8.55	5.16
TT	4.94	5.31	5.44	6.12	3.58	2.40
Oral Pill	7.99	5.77	12.01	9.93	6.53	3.86
Injectable	7.00	6.60	9.40	9.37	5.40	5.16
IUD	17.00	11.88	19.29	11.88	0.95	
FP Side-effect Management	10.35	7.09	10.91	9.74	8.65	4.44
Family Planning counseling	8.50	6.61	9.54	6.61	6.19	6.62
ARI	12.41	9.28	12.97	9.90	9.49	6.33
CDD	10.52	6.69	10.44	7.42	11.60	2.33
EPI	5.53	5.05	6.08	6.21	3.32	2.12
Condom	9.92	8.38	6.76	14.61	12.02	0.91
LCC	9.42	9.19	10.97	10.67	6.14	6.47
TB	7.29	7.73	7.29	7.73		
All	9.14	9.06	10.73	10.98	6.53	6.01
N	1784	1026	1108	630	676	396

The classification of customers by poverty status reveals that, by and large, the NSDP clinics serve more numbers of poor compared to non-poor (Figure 8.1). About 64% of static clinic customers and almost similar proportion of customers in satellite sessions are poor. This implies that around two-thirds of all resources spend for service delivery under NSDP is targeted to poor[4].

[4] All the expenditures directly and indirectly related to service delivery have been loaded to cost centers, and ultimately loaded in cost of service. Although the cost of NSDP headquarters and its regional offices are not included in the estimation process, but logically such expenditures are part of overhead cost center.

Figure 8.1: Distribution of customers by poverty status



It is assumed that since about 44% of Bangladesh population is poor[5], the share of poor in the customer composition will be proportionate to it. However, the higher proportion (64%) of the poor among NSDP customers – although estimated using a different but comparatively stringent working definition – indicates that the Smiling Sun service delivery system is well sensitive to the poor. Moreover, it is to note that by design NSDP is highly poor focused, and substantially contributing to the reduction of human poverty.

[5] GOB, Report of the household income and expenditure survey, 2000, BBS, 2003

CHAPTER NINE

KEY FINDINGS, AND POLICY AND PROGRAM IMPLICATIONS

The study reveals that the NSDP health service delivery mechanism is a complex system providing a wide range of services. The system comprises two major subsystems: (i) service delivery in urban locations, and (ii) service delivery in rural locations. Both subsystems, besides their structural differences, have the common feature of targeting disadvantaged people through its static and satellite clinics.

9.1. Key Findings

The study findings show that the issues of economic efficiency of the service delivery mechanism, in terms of cost structure and staff utilization, especially at clinic levels, deserve the attention of policy makers and program implementers. The pertinent key findings are:

- The staffing pattern, especially the number of staff in various categories in both urban and rural locations, varies across the system. However, about 50% of the staff in urban and rural clinics are direct service providers. The rest of the staff-members, in almost each and every clinic, are overhead staff.

- Average number of customers in clinics varies by type and location of the clinic. Urban static clinics serve on average 45 customers per day, whereas rural static clinics serve 26. While urban satellite clinics serve 20 customers, rural satellite clinics serve 27 customers, on average.

- While nationally 44% population is poor, the NSDP clinics serve customers of which 64% are poor. This implies that NSDP service delivery system is a pro-poor one.

- The highest number of customers in urban and rural static clinics is for treatment of LCC (11 and 7 customers per day respectively). In satellite clinics, both urban and rural locations, the highest number of visits is for injectable (5 and 11 customers per day respectively).

- On average, doctors in urban static clinics serve 19 customers per day, while doctors in rural static clinics serve 15 customers per day. For paramedics in urban static clinics the average number served is 24 customers per day and in rural static clinics paramedics serve 20 customers. Counselors in both urban and rural static clinics serve less than 2 family planning customers per day. Paramedics in urban and rural satellite clinics serve 20 and 27 customers per day, respectively.

- Although the providers in both urban and rural locations provide a wide range of health services, the highest number of customer visits to doctors is for LCC (8.3 in urban static and 6.5 in rural static). The paramedics in urban static clinics serve more clients of EPI than any other services (5.8 customers per day). A paramedic in a rural static clinic on average serves more customers for LCC than other services (5.6 customers). However, the highest number of visits in satellite clinics is for injectables.

- About 8% of full time equivalent (FTE) of all urban clinic staff is attributed to direct services, 74% for overhead activities, 9% for support services and 10% is lost due to down time. About 55% of full time equivalent of all urban clinic staff is used in static clinics and 35% in satellite clinics (excluding downtime).

- About 84% of total FTE in rural clinics is attributed to overhead activities, 6% to direct services, 4% to support services and 7% is lost to downtime. On the whole, 53% of FTE is used in static and 40% in satellite (excluding down time).

- A doctor in an urban static clinic spends 153 minutes a day for direct services, 147 minutes for non-contact time and 170 minutes for downtime (mainly waiting for clients). A paramedic in an urban static clinic spends 142 minutes for direct services, 178 minutes for non-contact time, and 158 minutes for downtime. A counselor in an urban static clinic spends 10 minutes for direct services, 457 minutes for non-contact time and 13 minutes for downtime. A doctor in a rural static clinic spends 182 minutes for direct services, about 112 minutes for non-contact time and 188 minutes for downtime. For paramedics in rural static clinics, 197 minutes account for direct services, about 106 minutes for non-contact time, and 178 minutes for downtime. A clinic aide/counselor in a rural static clinic spends 14 minutes for direct services, 443 minutes for non-contact time and 23 minutes on downtime. A paramedic in an urban satellite clinic spends 116 minutes for direct services, 264 minutes for non-contact time, and 100 minutes on downtime. For paramedics in rural satellite clinics, 158 minutes are for direct service, 249 minutes for non-contact, and 73 minutes for downtime.

- The downtime mainly consists of waiting time for customers (range 67% - 77%). The average lunch break among providers, type of clinics and locations does not exceed 30 minutes.

- Average downtime between two customer visits for doctors in urban static clinics is 6 minutes and for doctors in rural static clinics is 9 minutes. Downtime for paramedics in urban static clinics averages 5 minutes and 6 minutes in rural static clinics. In urban satellite clinics, the average downtime between two customers is 2 minutes, while in rural satellite clinics it is 3 minutes.

- Unit cost of services type varies across providers, clinic type, and location. Unit cost of doctor -delivered ANC 1st visit in urban static clinics is Tk. 98, whereas it is Tk.179 in rural static clinics. For paramedics in urban static clinics, ANC 1st visit costs Tk. 75 and Tk.132 in rural static clinics. The ANC 1st visit in urban and rural satellite clinics costs Tk.75, and Tk.87, respectively.

- Unit cost also varies by services type. For example the unit cost of doctor-delivered services in urban static clinics ranges between Tk. 40 (for TB) and Tk. 292 (for PLTM).

- The unit cost of any service is a joint cost of three cost centers: Direct Service cost (DS), Overhead Cost (OH), and Support Service Cost (SS). The share of OH in unit cost is relatively high across type of provider, clinic, and location. For doctor-delivered services in urban static clinics, the OH share ranges between 52% (PAC) and 81% (EPI) of the unit cost. OH share in unit cost of paramedics providing services in rural static clinics varies between 90% (IUD) and 93% (CDD). The same is similarly high for other providers in different types of clinics and locations.

- The unit cost of service largely depends upon the number of customers. The unit cost of doctor-delivered LCC is highest at Tk. 166 in a clinic where the doctor has only 2 LCC customers, and it is lowest at Tk. 26 in another clinic where the doctor has as many as 10 LCC customers. OH as part of total cost for LCC for the day in these two

clinics is Tk. 210 and Tk. 140 respectively. The share of OH in unit cost in the highest-cost clinic is Tk. 105 (63%) and that in the least-cost clinic is Tk. 14 (53%).

- The observed unit costs of doctor-delivered LCC in urban and rural static clinics respectively are Tk. 63 (8.32 customers) and Tk. 89 (6.52 customers). Estimates reveal that if the number of customers in both clinics increases from their observed respective numbers (8.32 and 6.52) to 10, the unit cost will decrease. In which case, the estimated unit cost for doctor-delivered LCC in urban static clinics will decrease by about 12% and in rural static clinics it will decrease by 29%.

- Average cost, as well as the cost of downtime by services type, follows the pattern similar to the respective unit cost by service type.

- Irrespective of providers and service type, the actual time devoted to customers (as direct contact time) is less than that required as per the standard time. As compared to the standard time, an urban doctor spends 84 minutes less contact time a day, and this is as high as 162 minutes for an urban paramedic, 60 minutes for a rural doctor, and 44 minutes for rural paramedics. Since observed downtime outweighs the above time, it would be possible to comply with the standard.

- On the whole, about 87% of customers in NSDP clinics arrive between 09:00 hrs. and 13:00 hrs. (peak hours), while 58% of customers arrive between 10:00 hrs. and 11:00 hrs. 94% rural and 84% urban customers visit clinics during these peak hours. A noticeable urban-rural difference also exists in customer flow during off-peak hours: 4.9% rural customers and 14.4% urban customers visit clinics.

- 90% of customers consider their present visiting time convenient. About 80% of those who consider present visiting time convenient, reported to have less pressure from housework during these hours. About 25% have reported that the clinic is less crowded during their visits and thereby the visiting time is convenient for them.

- Over 10% of the customers reported that their current time of visit is inconvenient, because of (i) too much housework, (ii) doctors not available, or (iii) too much crowd.

- Over 75% of urban and 80% of rural customers expressed their willingness to use services in off-peak hours. According to them, the reasons behind such willingness are (i) less crowd during off-peak hours, (ii) doctors will be available to give more time, (iii) availability of better services, and (iv) less household work.

- According to the customers, if clinics can ensure giving more time to customers (increase direct contact time), ensure presence of qualified doctors, and introduce no or low (reduced) services charge for the poor during non-peak hours, the customer flow will increase.

9.2. Some Policy and Program Implications

Based on the analysis of the findings, the following five major issues, that have policy and program implications, emerge. These are:

1. Low customer volume;
2. Low contact time (DS time);
3. High overhead costs;
4. Low use of non-peak hours; and
5. Lack of utility of “cost analysis” for the NGOs and clinics.

9.2.1. Customer volume

The volume of customers in NSDP clinics is generally low. Urban static clinics serve on average 45 customers per day, rural static clinics serve 26 customers, urban satellite clinics serve 20 customers and rural satellite clinics serve 27 customers. Findings reveal that a low volume of customers increases the relative share of overhead and downtime, which in turn affects the unit cost, cost of downtime, and average cost. Therefore, NGOs and clinics may wish to adopt all possible measures toward increasing the volume of customers.

The benefits of increased customer volume will impact directly in decreasing unit cost and downtime, thereby decreasing the average cost. Simulation of the number of customers shows that a 17% increase in customer volume will reduce the unit cost by 12% and share of overhead in unit cost by 17%.

9.2.2. Contact time (DS time)

The providers' actual contact time with customers compared to standard time is low for all services. As compared to standard time, an urban doctor spends 84 minutes less contact time a day. The time deficit is as high as 162 minutes for urban paramedics, 60 minutes for rural doctors, and 44 minutes for rural paramedics. Since the observed downtime much outweighs the above time, it would be possible to comply with the standard.

Therefore, to resolve this issue of low contact time, NGOs and clinics should ensure providers spend more contact time in congruence with the standard.

The benefits of increased contact time will be reflected directly in customer satisfaction. More customers will be attracted to clinics because of better quality, and, as such, NSDP clinics' image will be enhanced, which will contribute to the sustainability of NSDP NGOs. The cost of downtime also will be reduced due to increased contact time.

9.2.3. Overhead

Overhead in NSDP clinics is generally high. Share of overhead in staff utilization is high. About 74% of fulltime equivalent (FTE) of all urban clinic staff is overhead and about 84% in rural clinics. Providers' overhead time is also high. Overhead time constitute 30% of an urban doctor's time and 28% of a urban paramedic's time. Moreover, the share of overhead in unit cost is also high. The share of overhead in unit cost of LCC delivered by an urban doctor is about 72% and about 83% for a rural doctor.

In order to resolve the issue of relatively high overhead, NGOs and clinics should work to minimize providers' overhead time (e.g. doctor's in administration) and increase in volume of customers.

The benefit of decreased overhead will be a decrease in unit cost. As a result of reduced overhead, the providers and the clinics will be more efficient. The decrease in unit cost, in turn, will contribute to the clinic's sustainability.

9.2.4. Use of non-peak hours

Customer flow in the non-peak hours is low. About 1% of customers arrive at NSDP clinics between 08:00 and 09:00 hours, and about 11% visit the clinics between 15:00 and 16:00 hours. The clinics serve only 12% of customers during 50% of their working time. The finding implies high downtime and low capacity utilization during the non-peak hours.

Many customers are willing to come during non-peak hours provided the doctors are available to give more time and better services are ensured. Therefore, measures should be adopted to attract customers during non-peak hours. Introduction of free-of-cost or reduced service charges for the poor during non-peak hours is one of the plausible solutions.

The many potential benefits of increased use of non-peak hours include increased capacity utilization, reduced downtime, smoother customer flow during the day, increased contact time, enhanced customer satisfaction, and increased volume of customers.

9.2.5. Utility of "cost analysis" for the NGOs and clinics

The NGOs and clinics are not well conversant about unit cost and average cost including costs of overhead, support services, direct services and downtime. Their lack of knowledge about cost analysis impedes designing comprehensive sustainability plans to reduce the cost of services.

Therefore, NSDP should develop a simple, computerized cost analysis tool, and impart training on the subject to the NGOs.

The potential benefits would include, among others, (1) NGOs and clinics learning a simple form of cost analysis, and (2) thereby improving their sustainability planning. In short, by learning cost analysis, NGOs will improve their capabilities for strategic thinking.

FORMULAE USED IN COST ESTIMATION

The following formulae have been used for estimating unit cost, cost of down time and average cost of unit services type.

$AC_{ijk} = UC_{ijk} + UCDT_{ijk}$ ……..(1),
where AC_{ijk} – average cost of i^{th} service for j^{th} provider in k^{th} clinic (i = 1,……,21), (j = 1,…..,4)[1], and (k = 1,2)[2]
UC_{ijk} – unit cost of i^{th} service for j^{th} provider in k^{th} clinic
$UCDT_{ijk}$ - unit cost of down time applicable for i^{th} service for j^{th} provider in k^{th} clinic

$$UC_{ijk} = \frac{TC_{ijk}}{n_{ijk}} \quad \text{……(2),}$$

TC_{ijk} - total cost of i^{th} service for j^{th} provider in k^{th} clinic
n_{ijk} – number of customers for i^{th} service to j^{th} provider in k^{th} clinic

$$UCDT_{ijk} = \frac{CDT_{ijk}}{n_{ijk}} \quad \text{……..(3)}$$

CDT_{ijk}- cost of down time applicable for i^{th} service for j^{th} provider in k^{th} clinic

$TC_{ijk} = RC_{ijk} + \text{Capital } C_{ijk}$ ……(4)

RC_{ijk} – total recurrent cost of i^{th} service for j^{th} provider in k^{th} clinic

Capital C_{ijk} – total capital cost of i^{th} service for j^{th} provider in k^{th} clinic

$RC_{ijk} = C(Salary)_{ijk} + C(Space)_{ijk} + C(Drugs)_{ijk} + C(Supplies)_{ijk} + C(NGO\ Supervision)_{ijk} + C(Operation)_{ijk}$ ……(5)

$C(Salary)_{ijk}$ – salary cost applicable for i^{th} service for j^{th} provider in k^{th} clinic

$C(Space)_{ijk}$ – space cost applicable for i^{th} service for j^{th} provider in k^{th} clinic

$C(Supplies)_{ijk}$ – cost of clinical supplies and logistics applicable for i^{th} service for j^{th} provider in k^{th} clinic

$C(NGO\ Supervision)_{ijk}$ – cost of NGO supervision applicable for i^{th} service for j^{th} provider in k^{th} clinic

[1] j = 1 – doctor, j = 2 – paramedic, j = 3 – counselor, j = 4 – clinic aide
[2] k = 1 – static, k = 2 – satellite

$C(Operation)_{ijk}$ – operations cost applicable for i^{th} service for j^{th} provider in k^{th} clinic

Capital $C_{ijk} = C\ (furniture)_{ijk} + C\ (equipment)_{ijk}$ ……(6)

$C\ (furniture)_{ijk}$ – cost (replacement) of furniture applicable for i^{th} service for j^{th} provider in k^{th} clinic

$C\ (equipment)_{ijk}$ – cost (replacement) of equipment applicable for i^{th} service for j^{th} provider in k^{th} clinic

$CDT_{ijk} = C(dt\ (salary))_{ijk} + C\ (dt\ (space))_{ijk} + C\ (dt\ (furniture))_{ijk} + C(dt(equipment))_{ijk}$……(7)

$C(dt\ (salary))_{ijk}$ – salary cost applicable for downtime for i^{th} service for j^{th} provider in k^{th} clinic

$C\ (dt\ (space))_{ijk}$ – space cost applicable for downtime for i^{th} service for j^{th} provider in k^{th} clinic

$C\ (dt\ (furniture))_{ijk}$ – furniture (replacement) cost applicable for downtime for i^{th} service for j^{th} provider in k^{th} clinic

$C\ (dt\ (equipment))_{ijk}$ – equipment (replacement) cost applicable for downtime for i^{th} service for j^{th} provider in k^{th} clinic

Salary cost

$C(Salary)_{ijk} = Sal\ (Provider)_{ijk} + Sal\ (Others)_{ik}$……(8)

$Sal\ (Provider)_{ijk}$ – salary of j^{th} provider applicable for i^{th} service by j^{th} provider in k^{th} clinic

$Sal\ (Others)_{ik}$ – salary of other staff applicable for i^{th} service for j^{th} provider in k^{th} clinic

$Sal\ (Provider)_{ijk} = DSSal_{ijk} + n_{jk}/N_k\ (OHSal_{ijk} + SSSal_{ijk})$ ……..(9)

$DSSal_{ijk}$ – direct service part of salary of j^{th} provider applicable for i^{th} service by j^{th} provider in k^{th} clinic

$OHSal_{ijk}$ – overhead part of salary of j^{th} provider applicable for i^{th} service by j^{th} provider in k^{th} clinic

$SSSal_{ijk}$ – support service part of salary of j^{th} provider applicable for i^{th} service by j^{th} provider in k^{th} clinic

n_{jk} - # of customers served by j^{th} provider in k^{th} clinic

N_k - # of all customers served by k^{th} clinic

$Sal\ (Others)_{ik} = n_{jk}/N_k\ (sum\ OHSalOS_{ijk} + sum\ SSSalOS_{ijk})$ ……(10)

$sum\ OHSalOS_{ijk}$ – overhead salary of all other staff applicable for i^{th} service by j^{th} provider in k^{th} clinic

sum $SSSalOS_{ijk}$ – support service salary of all other staff applicable for i^{th} service by j^{th} provider in k^{th} clinic

n_{jk} - # of customers served by j^{th} provider in k^{th} clinic
N_k - # of all customers served by k^{th} clinic

$OHSal_{ijk} = OHFTE_{ijk}$*unit Sal_{jk}……(11)

$OHFTE_{ijk}$ – FTE applicable for overhead activity of j^{th} provider for i^{th} service by j^{th} provider in k^{th} clinic

unit Sal_{jk} – unit salary (salary + benefits) per day of j^{th} provider in k^{th} clinic

$SSSal_{ijk} = SSFTE_{ijk}$*unit sal_{jk} ……. (12)

$SSFTE_{ijk}$ – support services related FTE of j^{th} provider for i^{th} service in k^{th} clinic
unit sal_{jk} – unit salary (salary + benefits) per day of j^{th} staff in k^{th} clinic

$DSSal_{ijk} = DSFTE_{ijk}$* unit sal_{jk} ……(13)

$DSFTE_{ijk}$ – FTE related to direct services for I^{th} service by j^{th} provider in k^{th} clinic
unit sal_{jk} – unit salary of (salary + benefits) per day of j^{th} provider in k^{th} clinic

$OHSalOS_{lijk}$ = sum ($OHFTEOS_{lijk}$* unit sal_{lk})……..(14)

$OHFTEOS_{lijk}$ – overhead related FTE of l^{th} staff needed for i^{th} service by j^{th} provider in k^{th} clinic

unit sal_{lk} – unit salary (salary + benefits) per day of l^{th} staff in k^{th} clinic

$SSSalOS_{lijk}$ = sum ($SSFTEOS_{lijk}$ * unit sal_{lk}) …….(15)

$SSFTEOS_{lijk}$ – support services related FTE of l^{th} staff needed for i^{th} service by j^{th} provider in k^{th} clinic

unit sal_{lk} – unit salary (salary + benefits) per day of l^{th} staff in k^{th} clinic

Cost of space

$C(Space)_{ijk} = CDSSpace_{ijk} + njk/Nk$ (sum ($COHSpace_{pijk}$) + sum ($CSSSpace_{pijk}$)) …..(16)

$DSSpace_{ijk}$ – cost of space used for direct service for I^{th} service by j^{th} provider in k^{th} clinic

$COHSpace_{pijk}$ – cost of p^{th} space used for support services for I^{th} service by j^{th} provider in k^{th} clinic

$CSSSpace_{pijk}$ - cost of p^{th} space used for overhead activities for I^{th} service by j^{th} provider in k^{th} clinic

n_{jk} - # of customers served by j^{th} provider in k^{th} clinic

N_k - # of all customers served by k^{th} clinic

$DSSpace_{ijk} = Space_{ijk} * DSFTE_{ijk} * Urent$ ……..(17)

$Space_{ijk}$ – space used for direct service for I^{th} service by j^{th} provider in k^{th} clinic

$DSFTE_{ijk}$ – direct service FTE applicable for I^{th} service by j^{th} provider in k^{th} clinic

Urent – rent for unit space ($1ft^2$) per day

$COHSpace_{pijk} = OHSpace_{pijk} * Urent$ ……..(18)

$Space_{pijk}$ – p^{th} space used for overhead activities for I^{th} service by j^{th} provider in k^{th} clinic

Urent – rent for unit space ($1ft^2$) per day

$CSSSpace_{pijk} = SSSpace_{pijk} * Urent$ ……..(19)

$SSSpace_{pijk}$ - p^{th} space used for support services for I^{th} service by j^{th} provider in k^{th} clinic

Clinical supply and logistics cost

$C(Supplies)_{ijk} = TCCSL*DSFTE_{ijk}$ ……(20)

$C(Supplies)_{ijk}$ – cost of clinical supplies and logistics applicable for i^{th} service for j^{th} provider in k^{th} clinic

TCCSL – Total cost of clinical supply and logistics used in k^{th} clinic

$DSFTE_{ijk}$ – direct service FTE applicable for I^{th} service by j^{th} provider in k^{th} clinic

NGO supervision cost

$C(NGO\ Supervision)_{ijk}$ = ((CNGO Supervision/# of clinics)/ # of sessions held in k^{th} clinic)* $DSFTE_{ijk}$ ……..(21)

$C(NGO\ Supervision)_{ijk}$ – cost of NGO supervision applicable for i^{th} service for j^{th} provider in k^{th} clinic

CNGO Supervision – Yearly cost of supervision by NGO

$DSFTE_{ijk}$ – direct service FTE applicable for I^{th} service by j^{th} provider in k^{th} clinic

Operations cost

$C(Operation)_{ijk}$ = (Coef. of k^{th} clinic Share* (Operation Cost /# of working days in year) * $DSFTE_{ijk}$ …… (22)

$C(Operation)_{ijk}$ – operations cost applicable for i^{th} service for j^{th} provider in k^{th} clinic

Furniture Cost

C (furniture) $_{ijk}$ = CDSFurniture$_{ijk}$ + njk/Nk (sum (COHFurniture$_{pijk}$) + sum (CSS furniture$_{pijk}$)) …..(23)

C (furniture) $_{ijk}$ – Daily economic cost of furniture applicable for i^{th} service for j^{th} provider in k^{th} clinic

DSFurniture$_{ijk}$ – Daily economic cost of Furniture used for direct service for I^{th} service by j^{th} provider in k^{th} clinic

COHFurniture$_{pijk}$ – Daily economic cost of Furniture in p^{th} space used for support services for I^{th} service by j^{th} provider in k^{th} clinic

CSSFurniture$_{pijk}$ - Daily economic cost of Furniture in p^{th} space used for overhead activities for I^{th} service by j^{th} provider in k^{th} clinic

n_{jk} - # of customers served by j^{th} provider in k^{th} clinic
N_k - # of all customers served by k^{th} clinic

DSFurniture$_{ijk}$ = Furniture$_{ijk}$ * DSFTE$_{ijk}$ ……..(24)

Space$_{ijk}$ – Daily economic cost of Furniture used for direct service for I^{th} service by j^{th} provider in k^{th} clinic

DSFTE$_{ijk}$ – direct service FTE applicable for I^{th} service by j^{th} provider in k^{th} clinic

COHFurniture$_{pijk}$ = OHFurniture$_{pijk}$ * DSFTE$_{ijk}$ ……..(25)

OHFurniture$_{pijk}$ – Daily economic cost of furniture in p^{th} space used for overhead activities for I^{th} service by j^{th} provider in k^{th} clinic

CSSFurniture$_{pijk}$ = SSFurniture$_{pijk}$ * DSFTE$_{ijk}$ ……..(26)

SSFurniture$_{pijk}$ – Daily economic cost of furniture in p^{th} space used for support services for I^{th} service by j^{th} provider in k^{th} clinic

Equipment cost

C (Equipment) $_{ijk}$ = CDSEquipment$_{ijk}$ + njk/Nk (sum (COHEquipment$_{pijk}$) + sum (CSS Equipment$_{pijk}$)) …..(27)

C (Equipment) $_{ijk}$ – Daily economic cost of equipment applicable for i^{th} service for j^{th} provider in k^{th} clinic

DSEquipment$_{ijk}$ – Daily economic cost of equipment used for direct service for I^{th} service by j^{th} provider in k^{th} clinic

COHEquipment$_{pijk}$ – Daily economic cost of equipment in p^{th} space used for support services for I^{th} service by j^{th} provider in k^{th} clinic

$CSSFurniture_{pijk}$ - Daily economic cost of equipment in p^{th} space used for overhead activities for l^{th} service by j^{th} provider in k^{th} clinic

n_{jk} - # of customers served by j^{th} provider in k^{th} clinic
N_k - # of all customers served by k^{th} clinic

$DSEquipment_{ijk} = Equipment_{ijk} * DSFTE_{ijk}$ ……..(28)

$Equipment_{ijk}$ – Daily economic cost of equipment used for direct service for l^{th} service by j^{th} provider in k^{th} clinic

$DSFTE_{ijk}$ – direct service FTE applicable for l^{th} service by j^{th} provider in k^{th} clinic

$COHEquipment_{pijk} = OHEquipment_{pijk} * DSFTE_{ijk}$ ……..(29)

$OHEquipment_{pijk}$ – Daily economic cost of equipment in p^{th} space used for overhead activities for l^{th} service by j^{th} provider in k^{th} clinic

$CSSEquipment_{pijk} = SSEquipment_{pijk} * DSFTE_{ijk}$ ……..(30)

$SSFurniture_{pijk}$ – Daily economic cost of equipment in p^{th} space used for support services for l^{th} service by j^{th} provider in k^{th} clinic

Unit and Average Cost Estimation: An Example

The cost estimation exercise for static clinic # C has been started with estimating the time allocation of direct service providers. All activity made by the providers has been recorded using Format F and grouped into four groups: (i) contact time (CT), (ii) support service (SS), (iii) non-contact time (OH), and (iv) downtime (DT).

Full time equivalent (FTE) of all clinic staff dedicated to static clinic has been calculated on the basis of data obtained through Formats C1 and F.

Staffing pattern and customers served

Table A1: Observed distribution of time of providers in static clinic # C[1]

Activity type	Doctor's time (min)	Proportion of doctor's total time	Paramedic's time (min)	Proportion of paramedic's total time	Counselor's time (min)	Proportion of counselor's total time
CT	81	0.17	263	0.55	28	0.06
SS		0.00	31	0.06	137	0.29
OH	277	0.58	106	0.22	254	0.53
DT	122	0.25	80	0.17	61	0.13
Total	480	1.00	480	1.00	480	1.00

Table A2: Distribution of full time equivalent staff by type of their involvement in direct services, support service and overhead for static clinic.

Positions	Invovement in Static (Total staff FTE)	Over-head (OH)	Sup-port Ser-vice (SS)	Direct Services														
				Total (DS)	ESP													
					ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-seling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	0.94	0.58		0.17	0.000	0.021	0.000	0.010	0.003	0.000	0.003	0.000	0.000	0.000	0.004	0.045	0.008	0.074
Para 1	1	0.22	0.06	0.516	0.031	0.127	0.021	0.013	0.016	0.000	0.014	0.003	0.008	0.015	0.000	0.020	0.134	0.147
Para 2	0.95	0.05																
Para 3	0.1	0.1																
Para 4	0.1	0.1																
Counselor	1	0.53	0.29	0.06					0.026	0.033								
Lab Tech	1	0	1															
SPO	0.36	0.36																
SP1	0.03	0.03																
SP2	0.03	0.03																
Aya	1	1																
Guard	1	1																
Total FTE	7.51	3.997	1.35	0.74	0.031	0.148	0.021	0.023	0.044	0.033	0.017	0.003	0.008	0.015	0.004	0.064	0.142	0.221

Table A2 reveals that although there are 12 persons working in clinic # C, only 7.51 FTE persons are involved in providing services for the static clinic. It shows that 0.74 FTE has been used for direct service related activities excluding the direct service providers' down time (DT). Similarly, 1.35 FTE and 3.997 FTE have been used respectively for activities related to support services and overhead activities.

[1] In the following subsections, example of clinic C has been cited for understanding the unit cost estimation methodology.

Static clinic # C has served 55 customers on the day of observation. Table A3 shows distribution of customers by type of services and by providers as well as observed direct contact time by services by providers. It is apparent that for estimation of unit cost of unit services by providers the static clinic can be considered as 3 hypothetical clinics where the doctor, paramedic and counselor respectively is considered as the sole service provider (i.e. there is no other provider except only one out of three: doctor, paramedic and counselor for instance delivering direct services). Thus, the cost for doctor delivered services has been estimated assuming that the size of the observed clinic # C is proportionate to be number of customers served by doctor to total customers served by clinic # C (i.e; 18 out of 55 customers in this clinics).

Table A3: Observed direct contact time by providers by services

Service Type	Time Spent by service (minutes)								
	Doctor			Paramedic			Counselor		
	Unit time	Customer (#)	Total time	Unit time	Customer (#)	Total time	Unit time	Customer (#)	Total
ANC 1st visit	0	0	0	14.93	1	14.93		0	0
ANC revisit	10.02	1	10.02	10.19	6	61.14		0	0
PNC 1st visit	0	0	0	9.92	1	9.92		0	0
PNC revisit	4.83	1	4.83	3.03	2	6.06		0	0
FP counseling	1.57	1	1.57	7.48	1	7.48	12.25	1	12.25
FP Pill condom	0	0	0	0	0	0	7.87	2	15.74
FP Inj.	1.58	1	1.58	3.61	2	6.62		0	0
FP IUD	0	0	0	1.27	1	1.27		0	0
FP Permanent method	0	0	0	0	0	0		0	0
TT	0	0	0	3.83	1	3.83		0	0
RTI/STI	0	0	0	7.07	1	7.07		0	0
CDD	1.93	1	1.93	0	0	0		0	0
ARI	7.14	3	21.48	4.72	2	9.44		0	0
TB	1.95	2	3.9	7.16	9	64.44		0	0
LCC	4.46	8	35.72	10.07	7	70.49		0	0
All Services (Ds)		18	81.03		34	262.69		3	27.99
Proportion of customers served by providers		0.327			0.618			0.054	

In view of the assumption stated afore, the calculated FTE of all staff for the clinic # C when doctor (clinic manager) is the sole provider of all direct services has been presented in Table A4. It is to be noted that the down time (DT) has been completely excluded from the calculation. In the assumed instance, the clinic has provided services with 0.17 FTE for direct services, 0.442 FTE for support services, and 1.308 FTE for overhead activities. The total FTE has been 1.919.

Table A4: Distribution of full time equivalent of staff for static clinic when the doctor is the sole provider

Positions	Involvement in Static (Total staff FTE)	Over-head (OH)	Sup-port Ser-vice (SS)	Direct Services														
				Total (DS)	ESP													
					ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-seling	FP Pill Con-dom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	0.358	0.1889	0.000	0.17	0.000	0.021	0.000	0.010	0.003	0.000	0.003	0.000	0.000	0.000	0.004	0.045	0.008	0.074
Para 1	0.093	0.0723	0.021															
Para 2	0.016	0.0164	0.000															
Para 3	0.033	0.0327	0.000															
Para 4	0.033	0.0327	0.000															
Counselor	0.267	0.1732	0.093															
Lab Tech	0.327	0	0.327															
SPO	0.118	0.1178	0.000															
SP1	0.01	0.0098	0.000															
SP2	0.01	0.0098	0.000															
Aya	0.327	0.3273	0.000															
Guard	0.327	0.3273	0.000															
	1.919	1.3081	0.442	0.17	0.000	0.021	0.000	0.010	0.003	0.000	0.003	0.000	0.000	0.000	0.004	0.045	0.008	0.074

Box A1: Proportion of employees in each cost center	
Direct Service	0.087949966
Support Service	0.230269003
Overhead	0.681781031

Proportion of FTE employees in each cost centers estimated as ratio between FTE in particular cost center and total FTE in the clinic is presented in Box A1. Example: Proportion of employees involved in direct service is 0.09 (0.17 FTE persons/1.919 persons). Box A2 provides information on FTE used by types of services. The allocation has been made considering the share of time (observed) given for each service to total contact time of the doctor (Table A4). Doctor has spent 0.021 FTE in serving ANC revisit out of 0.17 total FTE in DS. Therefore FTE for ANC revisit by doctor is 0.12 ((10.02 / 81)*0.17)[2].

Box A2: FTE of fulltime personnel in Direct Service	
Service Type	Proportion
ANC 1st visit	0.0000
ANC revisit	0.1237
PNC 1st visit	0.0000
PNC revisit	0.0596
FP Counseling	0.0194
FP Pill Condom	0.0000
FP Inj	0.0195
IUD	0.0000
TT	0.0000
RTI/STI	0.0000
CDD	0.0238
ARI	0.2652
TB	0.0481
LCC	0.4410

[2] DS FTE for a service = (Total contact time for the service/Total contact time)*DS FTE

Proportionate distribution of DS and SS FTE employees is presented in Box A3. These proportions have been applied in the later stage of step down calculation to allocate overhead between DS and SS.

Box A3: Proportionate distribution of DS and SS employees	
Direct Service	0.27638191
Support Service	0.72361809

Cost of personnel

The cost of personnel for each cost centers: DS, SS and OH has been allocated in Table A5 for all staff positions using data presented in Table A4. Daily salary of each staff has been calculated from the figures (actual amount drawn) collected for each staff through format A1. Cost of DS has been further allocated to different services proportionate to FTE allocation presented in Table A4.

Table A5: Allocation of Salary by DS, SS and OH (in Taka)

Positions	Annual compen-sation	Daily compen-sation	Over-head (OH)	Sup-port Ser-vice (SS)	Direct Services														
					Total (DS)	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Counseling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	171561	580	109	0	97.81	0	12.1	0	5.84	1.9	0	1.91	0	0	0	2.33	25.955	4.713	43
Para 1	88260	298	21.5	6.3															
Para 2	88260	298	4.88	0															
Para 3	77276	261	8.54	0															
Para 4	74412	251	8.23	0															
Counselor	77274	261	45.2	24.4															
Lab Tech	62964	213	0	69.6															
SPO	83650	283	33.3	0															
SP1	61056	206	2.03	0															
SP2	46746	158	1.55	0															
Aya	29680	100	32.8	0															
Guard	45792	155	50.6	0															
		3064	318	100	98	0	12	0	6	2	0	2	0	0	0	2	26	5	43

Proportion of salary cost applicable for hypothetical situation when the doctor is the sole provider in the clinic is shown in Table A6.

Table A6: Proportion of salary cost

	OH	SS	DS													
			total	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Counseling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Personnel Cost	318	100	98	0	12	0	6	2	0	2	0	0	0	2	26	5	43
DS proportion			1.00	0.00	0.12	0.00	0.06	0.02	0.00	0.02	0.00	0.00	0.00	0.02	0.27	0.05	0.44
Proportion of total	0.62	0.19	0.19	0.00	0.02	0.00	0.01	0.004	0.00	0.004	0.00	0.00	0.00	0.005	0.050	0.01	0.08

Space

Space related information for the clinic has been collected using format B1. Daily cost of space calculated by dividing the annual rent by number of days used (296 work days in 2004). Data related to utilization of clinic space and there allocation to DS, SS and OH has been presented in Table A7. estimated proportionate to the share of customers served by doctor. Allocation of space by cost centers and services is shown in Box A5. Rules used for allocating space between DS, SS, and OH for services provided by doctor are presented in Box A4. Daily cost of unit space (sq ft) has been calculated by dividing total annual rent of the clinic by member of working days (296 and in 2004) and then dividing by total space.

Box A4: Rules of allocation of space between DS, SS and OH	
Space	Rules of allocation
Clinic Manager	• Space attributable to satellite (6%) calculated using involvement data from C1. • Space attributable to static clinic (total – satellite) for doctor is allocated to OH, SS and DS on the basis of their FTE proportion for static. • DS for doctor is fully allocated to services provided by doctor. • OH part of space for doctor's direct services is proportionate to number of customers served by doctor and total number of customers served (18/55). • DS part of space has been further allocated between specific services on the basis of FTE by services provided by doctor
Paramedic	• Paramedic room is allocated between OH, SS and DS on the basis of FTE proportion for the static clinic. • OH part is then reallocated to OH for the customers served by doctor proportionate to their share among all customers (18/55). • SS part is reallocated in the same manner.
Counselor	• Counselor room is allocated and reallocated similarly as the paramedic room.
Laboratory/Lab. technician	• Lab space is fully allocated to SS. • Reallocation of lab space attributable to SS for doctor's customers has been made on the basis of proportion of customers served by doctor.
Mini OT/IUD Room	• As there was no customer for IUD, Norplant, sterilization and PAC served by the doctor Mini –OT space is not included in the calculation.
ORT Corner	• ORT corner space is fully allocated to SS. • Reallocation of ORT corner space attributable to SS for doctor's customers has been made on the basis of proportion customers served by doctor.
DOTS Corner	• DOTS corner space is fully allocated to SS. • Reallocation of DOTS corner space attributable to SS for doctor's customers has been made on the basis of proportion customers served by doctor.
Autoclave room	• Autoclave room space is fully allocated to OH. • Reallocation of autoclave room space attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.
Satellite room	• Satellite corner space is excluded from the calculation.
Waiting room (both)	• Waiting room is fully allocated to OH. • Reallocation of lab space attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.
Toilet	• Toilet is fully allocated to OH. • Reallocation of toilet attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.
Corridor	• Corridor is fully allocated to OH. • Reallocation of corridor attributable to OH for doctor's customers has been made on the basis of proportion customers served by doctor.

[Note: The above allocation rules have been applied for estimating cost of furniture and equipment]

Table A7: Utilization of clinic space and allocation by cost centers

Space	Sq ft	Rent/ year	Space attributable to Satellite (sq ft)	Space attributable to OH (sq ft)	Space attributable to SS (sq ft)	Space attributable to DS (sq ft)	Space attributable to down time (sq ft)	OH space for services by doctor	SS space for services by doctor	DS space for services by doctor
Clinic Manager	128	8084	7.68	69.4	0	20.3	30.6	22.7	0	20.3
Paramedic	127	8021		28	8.202	65.6	25.2	9.18	2.68	
Counselor	43	2716		22.8	12.27	2.51	5.46	7.45	4.02	
Laboratory/ Lab. technician	43	2716			43				0	
Mini OT/IUD Room	92	5811			92				0	
ORT Corner	41	2589			41				41	
DOTS Corner	155	9789			155				50.7	
Autoclave room	67	4232		67				21.9		
Satellite room	31	1958	31							
Waiting room (both)	106	6695		106				34.7		
Toilet	40	2526		40				13.1		
Corridor	77	4863		77				25.2		
Total	950	60000	38.68	410	351.5	88.4	61.2	134	98.4	20.3
Space cost per day								28.6	21	4.33

Box3.6: Proportion of space by services

OH	SS	DS	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC	Total space cost
28.647	21	4.3323	0	0.54	0	0.26	0.08	0	0.08	0	0	0	0.103	1.15	0.21	1.91	53.981

Furniture and equipment

Inventory of all furniture and other assets by rooms/ spaces have been made during field data collection. Unit replacement cost of each item has been calculated on the basis of their present market rate. Annual economic cost calculation prepared on the basis of replacement cost, useful life and annual factor. Economic cost of furniture per day has been calculated based on 296 working days in 2004.

Table A8: Furniture and other assets by rooms/space

Room/ space	Furniture Type	Qty	Unit replacement cost (Tk.)	Useful Life (Years)	Annual Factor	Annual economic cost of furniture and other asset (Tk)	Economic cost of furniture (per unit) per day (Tk.)	Economic cost of furniture (qty) per day (Tk.)
Clinic Manager (DS, OH)								
Telephone set		1	2,000	5	4.329	462.00	1.56	1.56
Chair Executive (high back)		1	5,200	15	10.380	500.96	1.69	1.69
File rack		1	4,500	15	10.380	433.53	1.46	1.46
Wooden steps		1	700	15	10.380	67.44	0.23	0.23
Board (BCC board)		2	1,500	20	12.462	120.37	0.41	0.81
Table with drawers		1	4,500	15	10.380	433.53	1.46	1.46
Chair steel		2	1,500	15	10.380	144.51	0.49	0.98
Fan Ceiling		1	1,400	15	10.380	134.87	0.46	0.46
Illumination Lamps (bulb/ tube light)		2	400	5	4.329	92.40	0.31	0.62
Wall Clock		1	400	15	10.380	38.54	0.13	0.13
Curtains (parda)		11	350	5	4.329	80.85	0.27	3.00
Table Bedside		1	3,000	15	10.380	289.02	0.98	0.98
Refrigerator (Normal/standard)		1	20,000	10	7.722	2,590.00	8.75	8.75
Steel wardrobe (almirah)		1	8,500	15	10.380	818.88	2.77	2.77
Sub total							-	**24.91**
Paramedic (DS, SS, OH)								
Cabinet File		1	6,500	15	10.380	626.20	2.12	2.12
Cabinet Medicine		1	7,500	15	10.380	722.54	2.44	2.44
Chair Office (armed)		1	1,500	15	10.380	144.51	0.49	0.49
Chair steel		2	1,500	15	10.380	144.51	0.49	0.98
Fan Ceiling		1	1,400	10	7.722	181.30	0.61	0.61
File rack		1	4,500	15	10.380	433.53	1.46	1.46
Illumination Lamps (bulb/ tube light)		3	400	5	4.329	92.40	0.31	0.94
Table with drawers		1	4,500	15	10.380	433.53	1.46	1.46
Table with rack		1	5,500	15	10.380	529.87	1.79	1.79
Wall Clock		1	400	5	4.329	92.40	0.31	0.31
Wooden steps		1	700	15	10.380	67.44	0.23	0.23
Sub total							-	**12.83**
Counselor (DS, SS, OH)								
Rack (without glass)		1	4,500	15	10.380	433.53	1.46	1.46
Steel wardrobe (almirah)		1	8,500	15	10.380	818.88	2.77	2.77
Cabinet Medicine		1	7,500	15	10.380	722.54	2.44	2.44
Table with drawers		1	4,500	15	10.380	433.53	1.46	1.46
Chair steel		3	1,500	15	10.380	144.51	0.49	1.46
Board (BCC board)		1	1,500	15	10.380	144.51	0.49	0.49
Wall Clock		2	400	5	4.329	92.40	0.31	0.62
Illumination Lamps (bulb/ tube light)		1	400	5	4.329	92.40	0.31	0.31
Fan Ceiling		1	1,400	10	7.722	181.30	0.61	0.61
Sub total							-	**11.64**
Laboratory (SS)								
Table		1	6,000	15	10.380	578.03	1.95	1.95
Stool		1	1,200	15	10.380	115.61	0.39	0.39
Wall Clock		1	400	5	4.329	92.40	0.31	0.31
Table with shelve		1	6,000	15	10.380	578.03	1.95	1.95
Table Laboratory		1	6,000	15	10.380	578.03	1.95	1.95
Basin Elbow		1	1,800	5	4.329	415.80	1.40	1.40
Chair steel		3	1,500	15	10.380	144.51	0.49	1.46
Curtains (parda)		1	350	5	4.329	80.85	0.27	0.27
Illumination Lamps (bulb/ tube light)		3	400	5	4.329	92.40	0.31	0.94
Fan Wall mounted		1	2,200	10	7.722	284.90	0.96	0.96
Fan Ceiling		1	1,400	10	7.722	181.30	0.61	0.61
Sub total							-	**12.22**

Room/ space	Furniture Type	Qty	Unit replacement cost (Tk.)	Useful Life (Years)	Annual Factor	Annual economic cost of furniture and other asset (Tk)	Economic cost of furniture (per unit) per day (Tk.)	Economic cost of furniture (qty) per day (Tk.)
Mini OT (SS)								
Stool		1	1,200	15	10.380	115.61	0.39	0.39
Wooden steps		1	700	15	10.380	67.44	0.23	0.23
Fan Pedestal / Stand		1	2,500	10	7.722	323.75	1.09	1.09
Wall Clock		1	400	5	4.329	92.40	0.31	0.31
Hand hold flash light		1	750	5	4.329	173.25	0.59	0.59
Illumination Lamps (bulb/ tube light)		3	400	5	4.329	92.40	0.31	0.94
Sub total							-	**3.55**
DOTS Corner (SS)								
Chair steel		7	1,500	15	10.380	144.51	0.49	3.42
Table		1	2,500	15	10.380	240.85	0.81	0.81
Fan Ceiling		1	1,400	10	7.722	181.30	0.61	0.61
Illumination Lamps (bulb/ tube light)		2	400	5	4.329	92.40	0.31	0.62
Sub total							-	**5.47**
ORT Corner (SS)								
Chair steel		3	1,500	15	10.380	144.51	0.49	1.46
Table with drawers		1	4,500	15	10.380	433.53	1.46	1.46
Sub total							-	**2.93**
Waiting room (OH)								
Chairs customer waiting room (plastic)		10	250	15	10.380	24.08	0.08	0.81
Chair working		2	3,000	15	10.380	289.02	0.98	1.95
Table		1	2,500	15	10.380	240.85	0.81	0.81
Board (BCC board)		2	1,500	15	10.380	144.51	0.49	0.98
Fan Ceiling		2	1,400	10	7.722	181.30	0.61	1.23
Illumination Lamps (bulb/ tube light)		2	400	5	4.329	92.40	0.31	0.62
TV		1	15,000	5	4.329	3,465.00	11.71	11.71
Water filter		1	2,000	10	7.722	259.00	0.88	0.88
Stool		1	1,200	15	10.380	115.61	0.39	0.39
Bucket		1	120	2	1.859	64.55	0.22	0.22
Sub total							-	**19.60**
Satellite Room								
Table Half secretariat		1	8,000	15	10.380	770.71	2.60	2.60
Stool revolving		1	2,000	15	10.380	192.68	0.65	0.65
Cabinet File		1	6,500	15	10.380	626.20	2.12	2.12
Chair Office (armed)		1	1,500	15	10.380	144.51	0.49	0.49
Board (BCC board)		1	1,500	15	10.380	144.51	0.49	0.49
Cassette player		1	4,500	5	4.329	1,039.50	3.51	3.51
Fan Ceiling		1	1,400	10	7.722	181.30	0.61	0.61
Illumination Lamps (bulb/ tube light)		1	400	5	4.329	92.40	0.31	0.31
Sub total								**10.78**
Autoclave room (OH)								
Basin Elbow		1	1,700	10	7.722	220.15	0.74	0.74
Basin Simple		1	1,700	10	7.722	220.15	0.74	0.74
Sub total							-	**1.49**
Toilet (SS)								
Basin Simple		2	1,700	10	7.722	220.15	0.74	1.49
Sub total								**1.49**
Total						**26,711.10**	**90.24**	**212.29**

The cost of furniture by rooms is then re-estimated for the situation when the doctor is the sole service provider in the clinic (Table A9). The re-estimated cost of furniture and other assets is allocated between DS, SS and OH proportionate to FTE proportion of employees in each cost center (Box A1). The cost of furniture allocated for Direct Service has been further reallocated by services in proportion with FTE of fulltime personnel in DS. It is to be noted that furniture in some specific locations like DOTS corner and ORT corner has been directly included to support services with the intention to allocate against some specific services (TB,

CDD) for which by definition these locations are used. The furniture found in two locations satellite room and mini OT (no customer's received IUD, Norplant, sterilization and PAC services in clinic # C on the observation day) has been excluded from the calculation.

Table A9: Allocation of economic **cost of furniture per day** by cost centers.

Space	Furniture	Activity wise room type	OH	SS	DS	Unutilization due to DT	OH for doctor services	SS for doctor services	DS for doctor services
Clinic Manager	24.91	OH/DS	14.4	-	4.2	6.33	4.7	0	4.2
Paramedic	12.83	OH/SS/DS	2.8	0.8	6.6	2.55	0.93	0.27	
Counselor	11.64	OH/SS/DS	6.2	3.3	0.7	1.48	2.02	1.09	
Laboratory/Lab. technician	12.22	SS		12.2				4	
Mini OT/IUD Room	3.55	SS		3.5				-	
ORT Corner	2.93	SS		2.9				2.9	
DOTS Corner	5.47	SS		5.5				1.79	
Autoclave room	1.49	OH	1.49				0.49		
Satellite room	10.78								
Waiting room (both)	19.60	OH	19.6				6.41		
Toilet	1.49	OH	1.5				0.49		
Corridor		OH	-						
Total cost of furniture	106.9		45.9	28.3	11.5	10.4	15.0	10.1	4.2

Box A6: Allocation of furniture by services

OH	SS	DS	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/ STI	CDD	ARI	TB	LCC	Total space cost
15.0	10.1	4.2	-	0.52	-	0.3	0.08	-	0.1	-	-	-	0.10	1.1	0.20	1.85	29.31

The cost of equipment by cost centers and by services has been allocated to DS, SS and OH in similar manner (Tables A10 and A11). It is to be noted that equipment located in clinic manager's room has been solely allocated to DS for doctor.

Table A10: Equipment in clinic # C by rooms/space

Room/ space	Equipment Type	Qty	Unit replacement cost (Tk.)	Useful Life (Years)	Annual Factor	Annual economic cost of equipment and other asset (Tk)	Economic cost of equipment (per unit per day (Tk.)	Economic cost of equipment (qty) per day (Tk.)
Clinic Manager (DS)								
	Instrument tray	1	350	2	1.859	188.27	0.64	0.64
	Instrument trolley	1	1,350	10	7.722	174.83	0.59	0.59
	Spot Light/ Stand light	1	780	2	1.859	419.58	1.42	1.42
	Stethoscope	1	280	2	1.859	150.62	0.51	0.51
	Table Patient Examination	1	6,500	15	10.380	626.20	2.12	2.12
	Thermometer	1	14	2	1.859	7.53	0.03	0.03
	View box (X-ray plate)	1	750	10	7.722	97.13	0.33	0.33
	Weighing Machine	1	850	5	4.329	196.35	0.66	0.66
	Weighing Machine	1	3,800	5	4.329	877.80	2.97	2.97
	Sub total						-	**9.25**
Paramedic (DS)								
	Instrument trolley	1	1,550	10	7.722	200.73	0.68	0.68
	Lifter	1	120	10	7.722	15.54	0.05	0.05
	Speculum	1	120	10	7.722	15.54	0.05	0.05
	Speculum	5	120	10	7.722	15.54	0.05	0.26
	Sterilizing Drum - Steam	1	850	10	7.722	110.08	0.37	0.37

Room/ space	Equipment Type	Qty	Unit replacement cost (Tk.)	Useful Life (Years)	Annual Factor	Annual economic cost of equipment and other asset (Tk)	Economic cost of equipment (per unit per day (Tk.)	Economic cost of equipment (qty) per day (Tk.)
	Sterilizing Drum - Steam	1	850	10	7.722	110.08	0.37	0.37
	Table Patient Examination	1	6,500	15	10.380	626.20	2.12	2.12
	Spot Light/ Stand light	1	750	10	7.722	97.13	0.33	0.33
	Tray - Kidney	1	110	15	10.380	10.60	0.04	0.04
	Thermometer	1	14	2	1.859	7.53	0.03	0.03
	Gully pot	2	38	15	10.380	3.66	0.01	0.02
	Scissors	2	100	5	4.329	23.10	0.08	0.16
	Forceps Plain dissecting	1	80	5	4.329	18.48	0.06	0.06
	Test Tube Holder	1	10	2	1.859	5.38	0.02	0.02
	Sub total						-	**4.56**
Laboratory (SS)								
	Centrifuge Machine	1	2,250	5	4.329	519.75	1.76	1.76
	Colorimeter	1	8,500	5	4.329	1,963.50	6.63	6.63
	ESR stand with tube	2	300	5	4.329	69.30	0.23	0.47
	Jar – for Lifter	2	100	2	1.859	53.79	0.18	0.36
	Lamp (Spirit)	1	30	2	1.859	16.14	0.05	0.05
	Microscope	1	13,800	5	4.329	3,187.80	10.77	10.77
	Spot Light/ Stand light	1	780	5	4.329	180.18	0.61	0.61
	Sucker machine	1	7,200	10	7.722	932.40	3.15	3.15
	Test Tube Holder	2	10	2	1.859	5.38	0.02	0.04
	Test Tube Stand	2	130	5	4.329	30.03	0.10	0.20
	Timer	1	180	5	4.329	41.58	0.14	0.14
	Tray Steel for medicine/ Demonstration	1	1,600	10	7.722	207.20	0.70	0.70
	Sub total						-	**24.88**
Mini OT (SS)								
	Table- OT	1	25,000	15	10.380	2,408.48	8.14	8.14
	Table Patient Examination	1	2,200	15	10.380	211.95	0.72	0.72
	Table- OT	1	25,000	15	10.380	2,408.48	8.14	8.14
	Spot Light/ Stand light	1	780	5	4.329	180.18	0.61	0.61
	Instrument trolley	3	1,550	10	7.722	200.73	0.68	2.03
	BP machine (Sphygmomanometer)	1	750	2	1.859	403.44	1.36	1.36
	First Aid Box	1	500	5	4.329	115.50	0.39	0.39
	Forceps - Straight Artery	4	48	5	4.329	11.09	0.04	0.15
	Forceps (Sponge Holding)	6	110	5	4.329	25.41	0.09	0.52
	Forceps Plain dissecting	2	80	5	4.329	18.48	0.06	0.12
	Forceps- Norplant Removal	1	1,500	5	4.329	346.50	1.17	1.17
	Gully pot	9	38	10	7.722	4.92	0.02	0.15
	Instrument tray	3	350	10	7.722	45.33	0.15	0.46
	Lifter	2	120	10	7.722	15.54	0.05	0.11
	Scissors	4	100	2	1.859	53.79	0.18	0.73
	Speculum	4	120	5	4.329	27.72	0.09	0.37
	Sterilizer	1	2,300	5	4.329	531.30	1.79	1.79
	Sterilizing Drum - Steam	2	450	5	4.329	103.95	0.35	0.70
	Sterilizing Drum - Steam	1	850	5	4.329	196.35	0.66	0.66
	Sterilizing Drum - Steam	1	450	5	4.329	103.95	0.35	0.35
	Stethoscope	1	280	2	1.859	150.62	0.51	0.51
	Tenaculum	4	130	5	4.329	30.03	0.10	0.41
	Tray - Kidney	4	85	10	7.722	11.01	0.04	0.15
	Uterine Sound	4	80	15	10.380	7.71	0.03	0.10
	Sub total						-	**29.84**
Autoclave room (OH)								
	Autoclave (Electric)	1	4,500	10	7.722	582.75	1.97	1.97
	Saline stand	1	390	10	7.722	50.51	0.17	0.17
	Incinerator	1	1,000	10	7.722	129.50	0.44	0.44
	Timer	1	180	5	4.329	41.58	0.14	0.14
	Sub total							**2.72**
Total						**19,621.72**	**66.29**	**71.25**

Table A11: Economic cost of equipment allocation per day by cost centers.

Space	**Equipment**	Activity wise room type	OH	SS	DS	Unutiliztion due to DT	OH for paramedic services	SS for paramedic services	DS for paramedic services
Clinic Manager	9.3	DS			7.69	1.6			9.3
Paramedic	4.6	DS			2.20	2.4			
Counselor		DS							
Laboratory/Lab. technician	24.9	SS		24.9				8.1	
Mini OT/IUD Room	29.8	SS		29.8					
ORT Corner		SS							
DOTS Corner		SS							
Autoclave room	2.7	OH	2.72				0.89		
Satellite room									
Waiting room (both)		OH							
Toilet		OH							
Corridor		OH							
Total equipment cost	71.2						0.9	8.1	9.3

Box A7: Allocation of equipment by services

OH	SS	DS	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/ STI	CDD	ARI	TB	LCC	Total space cost
0.9	8.1	9.3	-	1.14	-	0.6	0.18	-	0.2	-	-	-	0.22	2.5	0.45	4.08	18.284

Supplies and clinical logistics

The annual cost of clinical supplies and logistics has been collected in Format A1. The daily consumption of supply estimated by dividing the annual amount by number of workdays (296). Clinical supplies and logistics in case of NSDP clinics are assumed to consume during direct service only and therefore, fully allocated to DS. The amount then distributed in proportion with FTE proportion by services.

Table A12: Clinical supplies and logistics

Total	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
42.89	0	5.3057	0	2.56	0.831	0	0.84	0	0	0	1.022	11.4	2.065	18.9

Operation and utility cost

Operation and utility cost per day applicable for the scenario when doctor is the only provider in the clinic (proportionate to number of customers in the clinic and number served by doctor) has been calculated and the entire amount is allocated to OH.

Table A13: Operation and utility cost

Item	Yearly amount (Tk.)	Amount*0.74 / day @ 296 work days	Amount applicable for doctor
Utility (electricity, water, telephone)	47517	118.79	38.9
Admin cost	157536	393.84	129
Supplies	111564	278.91	91.3
Purchased services	144895	362.24	119
Education /training	22094	55.24	18.1
BCC activities	630	1.58	0.52
Total	484236	1210.59	396.19

NGO supervision cost

NGO supervision yearly cost for a clinic (proportionate to number of clinics managed by the NGO) has been calculated. Then, NGO supervision cost per day applicable for the scenario when doctor is the only provider in the clinic (proportionate to number of customers in the clinic and number served by doctor) has been calculated and the entire amount is allocated to OH.

Daily cost of a clinic

After completing preparation of cost data in separate tables a summary table of daily cost for a provider (doctor) has been prepared (Table A14). The table provides all cost information distributed by cost elements and sub elements (items) by cost centers DS, SS and OH for the specific provider (in this example "doctor"). It is revealed that altogether Tk.158 has been allocated as direct service cost, while Tk.140 and Tk.805 are cost of support services and overhead respectively.

Table A14: Summary of daily costs (Tk.) – Doctors Service (Clinic # C)

Cost item	OH	SS	Direct Services														DS Total
			ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC	
Recurrent costs																	
Salaries	318	100	0	12	0	6	2	0	2	0	0	0	2	26	5	43	98
Space	28.65	21.002	0	0.54	0	0.26	0.08	0	0.08	0	0	0	0.103	1.15	0.21	1.91	4.3323
Clinical Supplies			0	5.31	0	2.56	0.83	0	0.84	0	0	0	1.022	11.4	2.07	18.9	42.89
Operations cost	396.2																
NGO supervision cost	45.6																
Recurrent total	789	121	0	18	0	9	3	0	3	0	0	0	3	38	7	64	145
Capital costs																	
Furniture	15.0	10.1	-	0.52	-	0.25	0.08	-	0.08	-	-	-	0.10	1.11	0.20	1.85	4.2
Equipment	0.9	8.1	-	1.14	-	0.55	0.18	-	0.18	-	-	-	0.22	2.45	0.45	4.08	9.3
Capital total	15.92	18.218	0	1.66	0	0.8	0.26	0	0.26	0	0	0	0.321	3.57	0.65	5.93	13.454
Total cost	805	140	0	20	0	9	3	0	3	0	0	0	4	42	8	70	158

Step down allocation of DS and SS

According to rules of step down approach, at first step the cost of overhead has been reallocated between SS and DS. Accumulated SS cost applicable for all services except specific services (cost of ORT and DOTS corner space, furniture) has been allocated to direct services in the second step. SS cost applicable for specific services has been allocated in the third step.

The following allocation rules have been followed in Step 1 (Table A15) for allocation and reallocation of various cost items related to on cost center:

- Overhead salary has been allocated between DS and SS based on their proportion of FTE personnel in each of these cost centers. OH salary amount allocated to DS is distributed among different services based on their FTE proportion.

- Overhead space cost has been allocated between DS and SS based on their proportion. The OH space allocated to DS cost is allocated between different services on the basis of time spent by doctor for respective services.

- Overhead operations cost has been allocated between SS and DS on the basis of proportionate-to-floor space used by the respective cost centers. Overhead

operations cost allocated to DS has been distributed between services proportionate to actual floor used.

- Overhead cost of NGO supervision has been distributed **equally** between DS and SS. Allocated to DS part of NGO supervision cost is further distributed equally among all services.

- Overhead furniture cost has been allocated between DS and SS on the basis of furniture and equipment used by each of the respective cost center. Overhead cost of furniture allocated to DS has been distributed between services on the basis of furniture used for each service.

Table A15: Step 1 for cost of services provided by doctor: Allocation of daily overhead cost and SS cost between SS applicable for all services and applicable for specific services (Tk.)

Cost item	SS		Direct Services														DS Total
			ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC	
	SS applicable for all services	SS applicable for specific services															
Recurrent costs																	
Salaries	100.30		0.00	12.10	0.00	5.84	1.90	0.00	1.91	0.00	0.00	0.00	2.33	25.96	4.71	43.16	97.81
OH allocated salaries	230.3		0	10.8789	0.0000	5.2440	1.7046	0.0000	1.7154	0.0000	0.0000	0.0000	2.0954	23.321	4.2343	38.782	87.943
Space	1.43	19.572	0	0.54	0	0.26	0.08	0	0.08	0	0	0	0.103	1.15	0.21	1.91	4.3323
OH allocated space	23.75		0	0.61	0	0.29	0.09	0	0.1	0	0	0	0.117	1.3	0.24	2.16	4.8988
Clinical Supplies			0	5.31	0	2.56	0.83	0	0.84	0	0	0	1.022	11.4	2.07	18.9	42.89
OH allocated operation	328.4		0	8.3811	0	4.04	1.3132	0	1.3216	0	0	0	1.6143	17.967	3.2621	29.878	67.752
OH allocated NGO supervision cost	22.8			2.8475		2.8475	2.8475		2.8475				2.8475	2.8475	2.8475	2.8475	22.78
Recurrent total	707.0	19.6	0.0	40.7	0.0	21.1	8.8	0.0	8.8	0.0	0.0	0.0	10.1	83.9	17.6	137.7	328.4
Capital costs																	
Furniture	5.36	4.72	0	0.52	0	0.25	0.08	0	0.08	0	0	0	0.1	1.11	0.2	1.85	4.2032
OH allocated furniture	10.61		0	0.55	0	0.26	0.09	0	0.09	0	0	0	0.105	1.17	0.21	1.95	4.4257
Equipment	8.14	-	0	1.14	0	0.55	0.18	0	0.18	0	0	0	0.22	2.45	0.45	4.08	9.251
OH allocated equipment	0.42		0	0.06	0	0.03	0.01	0	0.01	0	0	0	0.011	0.13	0.02	0.21	0.47
Capital total	24.52	4.7187	0	2.27	0	1.09	0.36	0	0.36	0	0	0	0.437	4.87	0.88	8.09	18.353
Total cost	731.5	24.3	0.0	42.9	0.0	22.2	9.1	0.0	9.2	0.0	0.0	0.0	10.6	88.8	18.4	145.7	346.8

The rules in step 2 in which SS applicable for all services have been allocated to all DS are as follows (Table A16):

- SS accumulated salary (applicable to all services) is allocated to different services on the basis of FTE full time personnel in direct services.

- SS accumulated space cost (applicable to all services portion) is allocated among services proportionate to number of customers served by the provider for the respective services.

- Allocated to SS cost of operations, is allocated among services proportionate to number of customers served by the provider for the respective services.

- Allocated to SS cost of NGO supervision is distributed between services proportionate customers served for respective service

- Accumulated cost of furniture and equipment is allocated by services proportionate to actual number of customer for respective services.

Table A16: Step down 2 for cost of services provided by doctor: Allocation of Daily support service applicable to all services costs (except SS cost applicable for specific services) of direct services (TK.)

Cost item	SS applicable for specific services	Direct Services														DS Total
		ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC	
Recurrent Cost																
Salaries		0.00	12.10	0.00	5.84	1.90	0.00	1.91	0.00	0.00	0.00	2.33	25.96	4.71	43.16	97.81
OH allocated salaries		0.00	10.88	0.00	5.24	1.70	0.00	1.72	0.00	0.00	0.00	2.10	23.32	4.23	38.78	87.94
SS applicable for all services allocated salary		0.00	40.9	0	19.71	6.41	0	6.45	0	0	0	7.88	87.66	15.9	146	330.6
Space	19.57	0	0.54	0	0.258	0.08	0	0.08	0	0	0	0.1	1.149	0.21	1.91	4.33
OH allocated space		0	0.61	0	0.292	0.09	0	0.1	0	0	0	0.12	1.299	0.24	2.16	4.9
SS applicable for all services allocated space		0	1.4	0	1.399	1.4	0	1.4	0	0	0	1.4	4.196	2.8	11.2	25.2
Clinical Supplies		0	5.31	0	2.558	0.83	0	0.84	0	0	0	1.02	11.37	2.07	18.9	42.9
OH allocated operation		0	8.38	0	4.04	1.31	0	1.32	0	0	0	1.61	17.97	3.26	29.9	67.8
SS applicable for all services allocated operation		0	18.2	0	18.25	18.2	0	18.2	0	0	0	18.2	54.74	36.5	146	328
OH allocated NGO supervision cost		0	2.85	0	2.848	2.85	0	2.85	0	0	0	2.85	2.848	2.85	2.85	22.8
SS allocated NGO supervision cost		0	1.27	0	1.266	1.27	0	1.27	0	0	0	1.27	3.797	2.53	10.1	22.8
Recurrent total	19.57	0	102	0	61.7	36.1	0	36.2	0	0	0	38.9	234.3	75.3	451	1035
Capital cost																
Furniture		0	0.52	0	0.251	0.08	0	0.08	0	0	0	0.1	1.115	0.2	1.85	4.2
OH allocated furniture		0	0.55	0	0.264	0.09	0	0.09	0	0	0	0.11	1.174	0.21	1.95	4.43
SS applicable for all services allocated furniture	4.719	0	0.89	0	0.887	0.89	0	0.89	0	0	0	0.89	2.661	1.77	7.1	16
Equipment		0	1.14	0	0.552	0.18	0	0.18	0	0	0	0.22	2.453	0.45	4.08	9.25
OH allocated equipment		0	0.06	0	0.028	0.01	0	0.01	0	0	0	0.01	0.125	0.02	0.21	0.47
SS applicable for all services allocated equipment		0	0.48	0	0.476	0.48	0	0.48	0	0	0	0.48	1.427	0.95	3.8	8.56
Capital total	4.719	0	3.63	0	2.457	1.72	0	1.72	0	0	0	1.8	8.954	3.61	19	42.9
Total cost	24.29	0	106	0	64.15	37.8	0	37.9	0	0	0	40.7	243.3	78.9	470	1078
Customer served		0	1	0	1	1	0	1	0	0	0	1	3	2	8	18

The rules in step 3 to allocated SS applicable for specific services to specific direct services are as follows (Table A17):

- The cost of space for ORT corner allocated earlier to SS specific services is fully allocated to CDD service, and DOTS corner to TB.

- Cost of furniture in ORT corner allocated to SS specific services is totally allocated to CDD service, and DOTS corner to TB.

Total cost of SS and OH has been loaded to DS and distributed between services. To obtain the unit cost of a service the total loaded cost of that service has been divided by number of customers who received that service on the day observation.

Table A17: Step 3 for Unit cost of Unit services provided by **doctor**: Allocation of SS for specific services to specific direct services

Cost item	Direct Services														DS Total
	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC	
Recurrent cost															
Salaries	0.00	12.10	0.00	5.84	1.90	0.00	1.91	0.00	0.00	0.00	2.33	25.96	4.71	43.16	97.81
OH allocated salaries	0.00	10.88	0.00	5.24	1.70	0.00	1.72	0.00	0.00	0.00	2.10	23.32	4.23	38.78	87.94
SS applicable for all services allocated salary	0.00	40.89	0.00	19.71	6.41	0.00	6.45	0.00	0.00	0.00	7.88	87.66	15.92	145.8	330.6
Space	0.00	0.54	0.00	0.26	0.08	0.00	0.08	0.00	0.00	0.00	0.10	1.15	0.21	1.91	4.33
OH allocated space	0.00	0.61	0.00	0.29	0.09	0.00	0.10	0.00	0.00	0.00	0.12	1.30	0.24	2.16	4.90
SS applicable for all services allocated space	0.00	1.40	0.00	1.40	1.40	0.00	1.40	0.00	0.00	0.00	1.40	4.20	2.80	11.19	25.18
SS applicable for specific services allocated space											8.748		10.82		19.6
Clinical Supplies	0	5.3057	0	2.56	0.831	0	0.84	0	0	0	1.022	11.4	2.065	18.9	42.9
OH allocated operation	0	8.3811	0	4.04	1.313	0	1.32	0	0	0	1.614	18	3.262	29.9	67.8
SS applicable for all services allocated operation	0	18.247	0	18.2	18.25	0	18.2	0	0	0	18.25	54.7	36.49	146	328
OH allocated NGO supervision cost	0	2.8475	0	2.85	2.848	0	2.85	0	0	0	2.848	2.85	2.848	2.85	22.8
SS allocated NGO supervision cost	0	1.2656	0	1.27	1.266	0	1.27	0	0	0	1.266	3.8	2.531	10.1	22.8
Recurrent total	0.00	102.46	0.00	61.70	36.09	0.00	36.17	0.00	0.00	0.00	47.67	234.3	86.13	450.7	1055
Capital costs															
Furniture	0	0.5199	0	0.25	0.081	0	0.08	0	0	0	0.1	1.11	0.202	1.85	4.2
OH allocated furniture	0	0.5475	0	0.26	0.086	0	0.09	0	0	0	0.105	1.17	0.213	1.95	4.43
SS applicable for all services allocated furniture	0	0.8869	0	0.89	0.887	0	0.89	0	0	0	0.887	2.66	1.774	7.1	16
SS applicable for specific services allocated furniture											2.9		1.79		4.72
Equipment	0	1.1444	0	0.55	0.179	0	0.18	0	0	0	0.22	2.45	0.445	4.08	9.25
OH allocated equipment	0	0.0585	0	0.03	0.009	0	0.01	0	0	0	0.011	0.13	0.023	0.21	0.47
SS applicable for all services allocated equipment	0	0.4756	0	0.48	0.476	0	0.48	0	0	0	0.476	1.43	0.951	3.8	8.56
Capital total	0	3.6328	0	2.46	1.718	0	1.72	0	0	0	4.729	8.95	5.398	19	47.6
Total cost	0.00	106.09	0.00	64.15	37.81	0.00	37.89	0.00	0.00	0.00	52.40	243.3	91.53	469.7	1103
Customer served	0	1	0	1	1	0	1	0	0	0	1	3	2	8	18
Unit cost		106.09		64.2	37.81		37.89				52.4	81.1	45.76	58.7	

To obtain the estimates for paramedics, counselor in static clinic, and paramedic in satellite calculations similar to those presented in above Tables have to be made.

Table A18: Unit Cost per unit services provided by **Paramedic**

Cost item	Direct Services														DS Total
	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC	
Recurrent cost															
Salaries	9.27	37.98	6.16	3.76	4.65	0.00	4.11	0.79	2.38	4.39	0.00	5.86	40.03	43.79	163.18
OH allocated salaries	13.53	55.40	8.99	5.49	6.78	0.00	6.00	1.15	3.47	6.41	0.00	8.55	58.39	63.88	238.04
SS applicable for all services allocated salary	31.40	128.58	20.86	12.74	15.73	0.00	13.92	2.67	8.05	14.87	0.00	19.85	135.5	148.2	552.5
Space	0.79	3.26	0.53	0.32	0.40	0.00	0.35	0.07	0.20	0.38	0.00	0.50	3.43	3.75	13.99
OH allocated space	0.69	2.82	0.46	0.28	0.35	0.00	0.31	0.06	0.18	0.33	0.00	0.44	2.97	3.25	12.12
SS applicable for all services allocated space	1.48	8.89	1.48	2.96	1.48	0.00	2.96	1.48	1.48	1.48	0.00	2.96	13.33	10.37	50.36
SS applicable for specific services allocated space								92			0		95.82		187.8
Clinical Supplies	4.605	18.856	3.06	1.87	2.307	0	2.04	0.39	1.18	2.18	0	2.911	19.87	21.7	81.02
OH allocated operation	8.594	35.192	5.71	3.49	4.305	0	3.81	0.73	2.2	4.07	0	5.434	37.09	40.6	151.2
SS applicable for all services allocated operation	15.4	92.422	15.4	30.8	15.4	0	30.8	15.4	15.4	15.4	0	30.81	138.6	108	523.7
OH allocated NGO supervision cost	3.797	3.7967	3.8	3.8	3.797	0	3.8	3.8	3.8	3.8	0	3.797	3.797	3.8	45.56
SS applicable for all services allocated NGO supervision cost	1.34	8.04	1.34	2.68	1.34	0	2.68	1.34	1.34	1.34	0	2.68	12.06	9.38	45.56
Recurrent total	90.91	395.24	67.79	68.21	56.53	0.00	70.79	119.9	39.69	54.64	0.00	83.80	561.0	456.6	2065.0
Capital costs															
Furniture	0.376	1.5413	0.25	0.15	0.189	0	0.17	0.03	0.1	0.18	0	0.238	1.624	1.78	6.622
OH allocated furniture	0.452	1.8494	0.3	0.18	0.226	0	0.2	0.04	0.12	0.21	0	0.286	1.949	2.13	7.946
SS applicable for all services allocated furniture	0.899	5.3943	0.9	1.8	0.899	0	1.8	0.9	0.9	0.9	0	1.798	8.091	6.29	30.57
SS applicable for specific services allocated furniture								3.55			0		3.38		6.926
Equipment	0.125	0.513	0.08	0.05	0.063	0	0.06	0.01	0.03	0.06	0	0.079	0.541	0.59	2.204
SS applicable for all services allocated equipment	0.5	2.9972	0.5	1	0.5	0	1	0.5	0.5	0.5	0	0.999	4.496	3.5	16.98
SS applicable for specific services allocated equipment								29.8							29.84
Capital total	2.352	12.295	2.03	3.18	1.876	0	3.22	34.9	1.64	1.85	0	3.4	20.08	14.3	101.1
Total cost	93	408	70	71	58	0	74	155	41	56	0	87	581	471	2166
Customer served	1	6	1	2	1	0	2	1	1	1	0	2	9	7	34
Unit cost	93.26	67.922	69.8	35.7	58.41		37	155	41.3	56.5		43.6	64.56	67.3	

Table A19: Unit cost of unit services provided by **counselor**

Cost item	Direct Services		DS Total
	FP Counseling	FP Pill Condom	
Recurrent cost			
Salaries	6.66	8.56	15.23
OH allocated salaries	10.26	13.18	23.44
SS applicable for all services allocated salary	20.26	26.03	46.3
Space	0.23	0.30	0.54
OH allocated space	0.73	0.94	1.68
SS applicable for all services allocated space	1.02	2.04	3.06
SS applicable for specific services allocated space			0
Clinical Supplies	3.127	4.018	7.148
OH allocated operation	10.95	14.06	25.02
SS applicable for all services allocated operation	11.51	23.02	34.53
OH allocated NGO supervision cost	2.01	2.01	4.02
SS applicable for all services allocated NGO supervision cost	1.34	2.68	4.02
Recurrent total	68.10	96.85	165.0
Capital costs			
Furniture	0.297	0.382	0.679
OH allocated furniture	0.458	0.589	1.047
SS applicable for all services allocated furniture	0.757	1.513	2.27
Equipment	0	0	0
SS applicable for all services allocated equipment	0.452	0.905	1.357
Capital total	1.964	3.388	5.353
Total cost	70	100	170
Customer served	1	2	3
Unit cost	70.06	50.12	

Table A20: Unit cost of unit services at satellite session

Cost item	Direct Services														DS Total
	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Counseling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC	
Recurrent cost															
Salaries	8.48	10.71	2.96	0.00	0.78	0.00	8.21	0.00	1.64	0.00	0.00	0.00	0.00	14.86	47.64
OH allocated salaries	56.32	71.16	19.68	0.00	5.15	0.00	54.50	0.00	10.90	0.00	0.00	0.00	0.00	98.71	316.42
SS applicable for all services allocated salary	14.28	18.04	4.99	0.00	1.31	0.00	13.82	0.00	2.76	0.00	0.00	0.00	0.0	25.0	80.2
Space	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OH allocated space	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SS applicable for all services allocated space	0.47	1.16	0.23	0.00	0.23	0.00	1.16	0.00	0.23	0.00	0.00	0.00	0.00	0.47	3.96
SS applicable for specific services allocated space								0			0		0		0
Clinical Supplies	8.368	10.572	2.92	0	0.765	0	8.1	0	1.62	0	0	0	0	14.7	47.01
OH allocated operation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SS applicable for all services allocated operation	24.01	60.016	12	0	12	0	60	0	12	0	0	0	0	24	204.1
OH allocated NGO supervision cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SS applicable for all services allocated NGO supervision cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recurrent total	111.92	171.67	42.80	0.00	20.23	0.00	145.8	0.0	29.16	0.00	0.00	0.00	0.0	177.7	699.3
Capital costs															
Furniture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OH allocated furniture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SS applicable for all services allocated furniture	0.693	1.7324	0.35	0	0.346	0	1.73	0	0.35	0	0	0	0	0.69	5.89
SS applicable for specific services allocated furniture								-			0		0		0
Equipment	0.525	0.6636	0.18	0	0.048	0	0.51	0	0.1	0	0	0	0	0.92	2.951
SS applicable for all services allocated equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SS applicable for specific services allocated equipment								-							0
Capital total	1.218	2.396	0.53	0	0.394	0	2.24	0	0.45	0	0	0	0	1.61	8.841
Total cost	113	174	43	0	21	0	148	0	30	0	0	0	0	179	708
Customer served	2	5	1	0	1	0	5	0	1	0	0	0	0	2	17
Unit cost	56.57	34.812	43.3		20.62		29.6		29.6					89.7	

Cost of down time and average cost

The total down time (DT) observed by providers has been allocated first to cost center DS of respective providers, and then reallocated to different services proportionate to their FTE (Table A21). Calculated Salary cost of DT by provider and by services has been presented in Table A22.

The space not used appropriately (as per its designed function: DS/SS/OH) has been estimated proportionate to the share of DT to productive time (DS+SS+OH). Cost of not appropriately used space by services has then calculated (Table A23).

Cost of under-utilized (due to DT) furniture and equipment by providers and services has been presented in Tables A24 and A25.

Total cost of DT (under utilization of resources) of a facility (static/ satellite) by respective provider (doctor, paramedic, and counselor) has been estimated by adding: (i) salary cost of DT, (ii) space cost of DT, (iii) furniture cost of DT, and (iv) equipment cost of DT (Thus the cost of DT of doctor has been found Tk. 167.80 or 13.26% of total unit cost of doctor). The

cost of DT by unit services has been estimated proportionate to the customers availed the particular service by the respective provider (Tables A26 and A27).

The estimated average costs of unit services are presented in Table A28 as sum of unit cost and cost of DT by services.

Table A21: Allocation of down time by services (proportionate to FTE): static clinic C

Provider type	DS														
	Total DT (unutilized FTE)	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	0.25	0.000	0.031	0.000	0.015	0.005	0.000	0.005	0.000	0.000	0.000	0.006	0.067	0.012	0.112
Para 1	0.17	0.0095	0.039	0.006	0.004	0.005	0.000	0.004	0.001	0.002	0.004	0.000	0.006	0.041	0.045
Counselor	0.13	0.000	0.000	0.000	0.000	0.056	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table A22: Allocation of salary cost of down time by services (proportionate to FTE) in Tk

Provider type	Unit salary (Tk)	Total salary for DT	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	580	147.3	0	18.2	0	8.78	2.86	0	2.87	0	0	0	3.51	39.1	7.09	65
Para 1	298	49.70	2.82	11.6	1.877	1.15	1.42	0	1.25	0.24	0.725	1.34	0	1.79	12.2	13.3
Counselor	261	33.18	0	0	0	0	14.5	18.6	0	0	0	0	0	0	0	0

Table A23: Allocation of unutilized space cost (due to DT) by services (proportionate to FTE) in Tk

Provider type	Cost of space not utilized (Tk)	Total salary for DT	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	6.53		-	0.81	-	0.4	0.13	-	0.1	-	-	-	0.16	1.73	0.31	2.88
Para 1	5.38		0	1.3	0.20	0.1	0.15	-	0.1	0.03	0.08	0.1	-	0.19	1.32	1.44
Counselor	1.17		-	-	-	-	0.51	0.66	-	-	-	-	-	-	-	-

Table A24: Allocation of unutilized furniture cost (due to DT) by services (proportionate to FTE) in Tk

Provider type	Cost of furniture not utilized (Tk)	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	6.33	-	1	-	0.4	0.12	-	0.1	-	-	-	0.15	1.68	0.30	2.79
Para 1	2.55	0.14	0.59	0.10	0.1	0.07	-	0.1	0.01	0.04	0.1	-	0.09	0.62	0.68
Counselor	1.48	-	-	-	-	0.65	0.83	-	-	-	-	-	-	-	

Table A25: Allocation of unutilized equipment cost (due to DT) by services (proportionate to FTE) in Tk

Provider type	Cost of equipment not utilized (Tk)	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Cl. Manager	1.56	-	0.19	-	0.1	0.03	-	0.0	-	-	-	0.04	0.41	0.08	0.69
Para 1	2.35	0.13	0.55	0.09	0.1	0.07	-	0.1	0.01	0.03	0.1	-	0.08	0.58	0.63
Counselor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A26: Doctor's cost of downtime per unit services: static clinic C

Cost item	Direct Services													
	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
DT salary	0.00	18.22	0.00	8.78	2.86	0.00	2.87	0.00	0.00	0.00	3.51	39.07	7.09	64.96
DT space cost	-	0.81	-	0.39	0.13	-	0.13	-	-	-	0.16	1.73	0.31	2.88
DT furniture cost	-	0.78	-	0.38	0.12	-	0.12	-	-	-	0.15	1.68	0.30	2.79
DT equipment cost	-	0.19	-	0.09	0.03	-	0.03	-	-	-	0.04	0.41	0.08	0.69
Total Cost of DT	-	20.0	-	9.6	3.1	-	3.2	-	-	-	3.9	42.9	7.8	71.3
# of customer	-	1	-	1	1	-	1	-	-	-	1	3	2	8
Cost of DT by unit service		20.01		9.64	3.13		3.15				3.85	14.3	3.89	8.92

Table A27: Average cost of unit service by doctor: static clinic C

Cost item	Direct Services													
	ANC 1st visit	ANC revisit	PNC 1st visit	PNC revisit	FP Coun-selling	FP Pill Condom	FP Inj	IUD	TT	RTI/STI	CDD	ARI	TB	LCC
Unit Cost	0	105.73	0	64.3	38.25	0	78.3	0	0	0	52.81	87	96.17	71.9
Cost of DT by unit service	-	20.01	-	9.64	3.13	-	3.15	-	-	-	3.85	14.3	3.89	8.92
Average cost	-	125.7	-	73.9	41.4	-	81.5	-	-	-	56.7	101	100	80.8

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Staff Position, Expenditure and Income of CLINIC

Format A1

Conducted for

NGO Services Delivery Program, NSDP

With funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

HDRC Human Development Research Centre

Road # 8, House # 5, Mohammadia Housing Society

Mohammadpur, Dhaka-1207

Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location: Urban = 1, Rural = 2 | Clinic Type: Static = 1, Comprehensive = 2

Name of NGO:_____

Clinic Address: _____

_____

_____

Investigator's name and code: .....

Date of data collection (day/ month/ year): [ ][ ] [ ] [5]

day month year

Number of Satellite Spots_____ | | |

Part A: Staff Position: As on December 31, 2004

(please indicate number of positions)

Staff Position	Approved	Available
1.Clinic Manager		
2. Medical Officer		
3. Physicians (Part time)		
4. Paramedic		
5. Counselor		
6. Service Promotion Officer		
7. Service Promoter		
8. Laboratory Technician		
9. Midwife		
10. Nurse		
11. Office Assistant		
12. Clinic Aide		
13. Ambulance Driver		
14. Messenger		
15. Aya		
16. Guard		
17. Cleaner		
18. Depot holder (Volunteer)		
19. Others (specify)		

Part B: Expenditure Statement: January 01, 2004 – December 31, 2004

* [Please record the salary/honorarium and benefits applicable for **2004 only**. Any amount paid during 2004 relates to any prior or future periods should not be considered. Amount related to 2004 but are still outstanding (unpaid) should be added.]

B.1. Personnel				
Name	Designation	# of months worked during 2004 (Jan 01-December 31)	Salary/Honorarium (Tk)*	Benefits & Bonus (Tk.)*
	Clinic Manager			
	Clinic Manager			
	Medical Officers			
	Medical Officers			
	Medical Officers			
	Medical Officers			
	Paramedics			
	Paramedics			
	Paramedics			
	Paramedics			
	Paramedics			
	Paramedics			
	Service Promotion Officer			
	Service Promoter			
	Service Promoter			
	Service Promoter			
	Service Promoter			
	Service Promoter			
	Service Promoter			
	Service Promoter			
	Nurse			
	Nurse			
	Nurse			
	Nurse			
	Nurse			
	Nurse			
	Office Assistant			
	Counselor			
	Midwife			
	Midwife			
	Midwife			
	Clinic Aide			
	Clinic Aide			
	Clinic Aide			
	Clinic Aide			
	Clinic Aide			

B.1. Personnel				
Name	Designation	# of months worked during 2004 (Jan 01-December 31)	Salary/Honorarium (Tk)*	Benefits & Bonus (Tk.)*
	Clinic Aide			
	Clinic Aide			
	Clinic Aide			
	Clinic Aide			
	Aya			
	Laboratory Technician			
	Ambulance Driver			
	Messenger			
	Guard			
	Cleaner			
	Physician (part time)			
	Physician (part time)			
	Physician (part time)			
	Others (specify)			

B.2. Other Operating Costs

For each of these expenses the amount to be recorded =
amount actually paid during the year
+ outstanding (or unpaid) amount for current year
- amount paid in advance for future periods
- amount paid during the year that relates to previous year(s).

For example, note the following information with regard to rent or electricity:

i) Amount paid during 2004 year: Tk 52,000, of which Tk. 12,000 was due and payable on account of the previous financial year.
ii) Rent of Tk. 8,000 on account of the last two months of this financial year is still unpaid.
iii) No rent was paid in advance for future years.

Hence the amount of rent to be recorded in this form would be:

amount actually paid during 2004	:Tk52,000
+ outstanding (or unpaid) amount for current year	: 8,000
- amount paid in advance for future periods	: -0
- amount paid during the year that relates to previous year(s) :	-12,000
Amount of rent expense for 2004	:Tk48,000

Item (s)	**Amount (Tk)**
Rant and Utility Bills	
House rent (**use market** rate if the facility is owned, or on a subsidized rent, or rent-free)	
Electricity	
Water	
Gas	
Telephone/mobile phone	
TV License fee	
Other expenses (specify)	
Subtotal	
Depot Holder Cost	
Honorarium	
Commission	
Subtotal	
Administrative costs	
Bank charges	
Observation of special days	
Postage	
Newspaper/periodicals	
Organizing service promotion events	
Printing//Photocopying	
Insurance premium	
Travels (including local travels)	
Per diem	
Other expenses (specify)	

Item (s)	Amount (Tk)
Supplies	
Uniform	
Computer related supplies	
Cleaning materials	
Stationeries	
Other supplies (specify)	
Subtotal	
Clinic logistics and Supplies	
Clinic supply	
Apron	
Contraceptives	
Antigen	
Vaccines	
Other clinic supplies (specify)	
Subtotal	
Other supplies	
Static clinic indicator board/signboard	
Name sign	
Satellite clinic signboards	
Calculator	
Satellite clinic bag	
Other (specify)	
Subtotal	
Purchased services	
Maintenance/renovation/repair	
Side effect management	
Other items (specify)	
Subtotal	
Education and training	
CMT	
ORH	
CSI	
Integrated CMT/CSI/ORH	
ECP	
IP & C	
ToT to Train Depot Holder	
Depot Holder Training	
Logistics Management	
CST: Norplant	
CST: IMCI	
CST: FPCSC	
CST: NSV	
CST: TB	
CST: Tubectomy	
CST: PAC	
CST: RTI/STI	
QIT: QMS	
POT: TOT MCP	
CR/Pricing: Orientation Workshop on “Community Response, Participatory Approaches and Pricing Intervention: Concept, Tools and Initiatives”	
BCC Team: Training/Planning Meeting on Local Level BCC Activities	
M&E Team: Orientation on ACCESS based MIS database	
M&E Team: Orientation on revised NSDP MIS Forms and Formats	
Other items (specify)	
Subtotal*	
Workshop	
Sustainability Team: Corporate Social Responsibility (CSR)	
Sustainability Team: Sustainability Planning Workshop	
Sustainability Team: Governance Symposium	
Sustainability Team: NGO Staff Retention Strategy Workshop	
Other training, workshop (if any)	
Subtotal	
BCC Activities	
Subtotal	
Other Expenses (not stated above)	

- If item wise expense not available, please record the total in the sub-total row.

Important: Please ensure that **ALL** recurring expenses incurred by the clinic during 2004 are recorded. **No expense item can be missed**. Before proceeding to the next section, double check with the clinic Manager or appropriate person at the clinic that all section expense are included in the above Table.

Part C: Revenue Statement: January 01, 2004 – December 31, 2004

Income Heads	Amount (Tk)
Sources of revenue:	
Registration fee	
Service charge	
Pathological service charges	
Medicine sale	
Family planning commodities sale	
Other commodities sale (specify)	
Other income (specify)	

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:
NGO Financial and Administrative Information Format [NGO HQs]

Format A2

Conducted for
NGO Services Delivery Program, NSDP
with funding support from USAID/Dhaka
under subcontract with
Research Triangle Institute International, RTI
(Subcontract # 1-31U - 5420)

Conducted by

HDRC Human Development Research Centre
Road # 8, House # 5, Mohammadia Housing Society
Mohammadpur, Dhaka-1207
Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,
E-mail: info@hdrc-bd.com, hdrc@bangla.net,
Website www.hdrc-bd.com

NGO ID: | | |

Name of NGO:_____

NGO Address: _____

_____

_____

Investigator's name and code: .....

Date of data collection (day/ month/ year): | | | | | | 5 |
day month year

Number of Static Clinics Managed _____
Number of Satellite Spots Managed _____

Part A: NGO HQ Staff Position: As on December 31, 2004 (NSDP funded only)

Staff Position	Approved	Available
Project Director		
Project Manager		
Monitoring Officer (Technical/Doctor)		
Monitoring Officer (non-doctor)		
Manager (Finance & Admin)		
Accountant		
Accounts Assistant		
MIS Officer		
MIS Assistant		
Documentation Officer		
Administrative Assistant		
Messenger		
Guard		
Cleaner		
Others (if any, specify)		

Part B: Expenditure Statement: January 01, 2004 – December 31, 2004

Personnel/Name	Designation	# of months worked during 2004	Salary/ Honorarium* (Tk.)	Benefits & Bonus * (Tk.)
	Project Director			
	Project Manager			
	Monitoring Officer (Technical/Doctor)			
	Monitoring Officer (Technical/Doctor)			
	Monitoring Officer (Technical/Doctor)			
	Monitoring Officer (non-doctor)			
	Monitoring Officer (non-doctor)			
	Manager (Finance & Admin)			
	Accountant			
	Accounts Assistant			
	Accounts Assistant			
	Accounts Assistant			
	Accounts Assistant			
	Accounts Assistant			
	MIS Officer			
	MIS Assistant			
	Documentation Officer			
	Administrative Assistant			
	Messenger			
	Guard			
	Cleaner			
	Others (specify)			
Sub Total				

* [Please record the salary/honorarium and benefits applicable for 2004 only. Any amount paid during 2004 relates to any prior or future periods should not be considered. Amount related to 2004 but are still outstanding (unpaid) should be added.]

Other Operating Costs

For each of these expenses the amount to be recorded =
amount actually paid during the year
+ outstanding (or unpaid) amount for current year
- amount paid in advance for future periods
- amount paid during the year that relates to previous year(s).

For example, note the following information with regard to rent or electricity:

i) Amount paid during 2004 year: Tk 220,000, of which Tk. 20,000 was due and payable on account of the previous financial year.
ii) Rent of Tk. 40,000 on account of the last two months of this financial year is still unpaid.
iii) No rent was paid in advance for future years.

Hence the amount of rent to be recorded in this form would be:

amount actually paid during 2004	:Tk220,000
+ outstanding (or unpaid) amount for current year	: 40,000
- amount paid in advance for future periods	: -0
- amount paid during the year that relates to previous year(s) :	-20,000
Amount of rent expense for 2004	:Tk240,000

item (s)	Amount (Tk)
Rent and Utility Bills	
House rent	
Electricity	
Water	
Gas	
Telephone/Mobile phone	
TV license	
Other (specify)	
Subtotal	
Administrative costs	
Bank charges	
Observation of special days	
Postage	
Newspaper/periodicals	
Organizing service promotion events	
Printing and stationeries	
Insurance premium	
Traveling costs	
Per diem	
Subtotal	
Supplies	
Uniform/apron	
Computer related supplies	
Cleaning materials	
Stationeries	
Calculator	
Subtotal	
Clinic logistics and supplies	
Contraceptive	
Antigen	
Vaccine	
Item (s)	**Amount (Tk)**
Other clinic supplies (specify)	
Subtotal	
Purchased services	
Maintenance/renovation/repair	
Education and training*	
CMT	
ORH	
CSI	
Integrated CMT/CSI/OR	
ECP	
IP & C	
ToT to Train Depot Holder	
Depot Holder Training	
Logistics Management	
CST: Norplant	

item (s)	Amount (Tk)
CST: IMCI	
CST: FPCSC	
CST: NSV	
CST: TB	
CST: Tubectomy	
CST: PAC	
CST: RTI/STI	
QIT: QMS	
POT: TOT MCP	
CR/Pricing: Orientation Workshop on "Community Response, Participatory Approaches and Pricing Intervention: Concept, Tools and Initiatives"	
BCC Team: Training/Planning Meeting on Local Level BCC Activities	
M&E Team: Orientation on ACCESS based MIS database	
M&E Team: Orientation on revised NSDP MIS Forms and Formats	
Other (specify)	
Subtotal	
Workshop	
Sustainability Team: Corporate Social Responsibility (CSR)	
Sustainability Team: Sustainability Planning Workshop	
Sustainability Team: Governance Symposium	
Sustainability Team: NGO Staff Retention Strategy Workshop	
Other training (specify)	
Sub-total	
Other expenditure (specify)	
% of expenditure borne by NSDP	**%**

***** If item wise expense not available, please record the total in the sub-total row.

important: Please ensure that **ALL** recurring expenses incurred by the clinic during 2004 are recorded. **No expense item can be missed**. Before proceeding to the next section, double check with the clinic Manager or appropriate person at the clinic that all section expense are included in the above Table.

Part C: Furniture, Fixture, Office Equipment, and other Fixed Assets according to Register(s) as on December 31, 2004

Name of Asset **(Master List 1)**		#
101.	Advertisement Boards	
102.	Air conditioner (split type)	
103.	Air conditioner (window type)	
104.	Ambulance	
105.	Basin Elbow	
106.	Basin Simple	
107.	Battery (Car)	
108.	Bench	
109.	Bi-cycle	
110.	Board (BCC board)	
111.	Board (Bill Boards)	
112.	Board (Black)	
113.	Board (Demonstration board)	
114.	Board (location finder)	
115.	Board (Sign Boards)	
116.	Board (white board)	
117.	Bucket	
118.	Cabinet File	
119.	Cabinet Medicine	
120.	Cassette player	
121.	Chair	
122.	Chair customer	
123.	Chair Executive	
124.	Chair Executive (high back)	

Name of Asset **(Master List 1)**		#
125.	Chair Office (armed)	
126.	Chair Semi Executive	
127.	Chair steel	
128.	Chair Visitor (office)	
129.	Chair wooden	
130.	Chair working	
131.	Chairs customer waiting room (plastic)	
132.	Chairs Office (arm less)	
133.	Charger Light	
134.	Commode/Pan	
135.	Computers with printers and UPS	
136.	Curtains (parda)	
137.	Demonstration models	
138.	Fan Ceiling	
139.	Fan Exhaust	
140.	Fan Pedestal / Stand	
141.	Fan Table	
142.	Fan Wall mounted	
143.	File rack	
144.	Gas burner/stove	
145.	Generator	
146.	Hand hold flash light	
147.	Hand washing drum/ Pot	
148.	Illumination Lamps (bulb/ tube light)	
149.	Instrument rack/cabinet	
150.	IPS	
151.	Iron electric	
152.	Iron safe	
153.	Laboratory furniture	
154.	Laud speaker, microphone/ hand mike	
155.	Motorcycle	
156.	Multimedia projector	
157.	OT Table	
158.	Other furniture/ equipment (above Tk. 300)	
159.	Over head projector	
160.	Partition (permanent /folding)	
161.	Patient bed	
162.	Photo copier	
163.	Projection screen	
164.	Rack (without glass)	
165.	Rack with glass/showcase	
166.	Reagent cabinet	
167.	Refrigerator (Normal/standard)	
168.	Refrigerator(deep)	
169.	SP/MIS shelves	
170.	Steel wardrobe (almirah)	
171.	Steps for examination table	
172.	Stool	
173.	Stool revolving	
174.	Table	

Name of Asset **(Master List 1)**		#
175.	Table BCC	
176.	Table Bedside	
177.	Table Conference	
178.	Table for satellite clinics	
179.	Table Full Secretariat	
180.	Table Half secretariat	
181.	Table Laboratory	
182.	Table Office	
183.	Table Patient examination	
184.	Table Training Room	
185.	Table with drawers	
186.	Table with rack	
187.	Table with shelve	
188.	Table Working	
189.	Telephone set	
190.	TV	
191.	TV trolly	
192.	VCR/VCD player	
193.	Wall Clock	
194.	Water filter	
195.	Wheel Chair	
196.	Wooden steps	

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Clinical Space by Purposes and Fixed Asset

Format B1

Conducted for

NGO Services Delivery Program, NSDP

With funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

HDRC Human Development Research Centre

Road # 8, House # 5, Mohammadia Housing Society

Mohammadpur, Dhaka-1207

Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location (Urban = 1, Rural = 2) | Clinic Type (Static = 1, Comprehensive = 2)

Name of NGO:_____

Clinic Address: _____

_____

_____

Investigator's name and code:

Date of data collection (day/ month/ year): [ ][ ] [ ] [5]

day month year

1. Draw a map of the clinic and fill in the table followed:

……

2. Uses of clinic space by purpose(s)*

Room type	Area (sq ft)	Predominant Purpose*	Other purposes*				
			Purpose*	Purpose*	Purpose*	Purpose*	Purpose*
11= Waiting room (female)							
12= Waiting room (male)							
13= Waiting room (both)							
14=Counselor							
15=Clinic Aide							
16=Clinic Manager							
17=Doctor (1)							
18=Doctor (2)							
19=Paramedic							
20=Laboratory/Lab. technician							
21=Pharmacy							
22=Service Promotion officer							
23=Office Assistant							
24=Delivery Care Ward							
25=EOC Ward							
26=Labor room							
27=Labor OT (EOC)							
28=Mini OT/IUD Room							
29=Post delivery/recovery room							
30=Dressing/preparation room							
31=Satellite Clinic Room							
32=ORT Corner							
33=Toilet							
34=Corridor							
35=Store room							
36=Kitchen							
37=Room not in use							
38=Clinic premise (outside clinic building)							
39 = DOTS Corner							
40 = Washing room							
41 = Autoclave room							
Other_____(Specify)							

Note: ***Purpose code***
51= Waiting, 52= Registration, 53= Counseling, 54=Autoclaving, 55= Medical consultation, 56=Vaccination, 57=Administration, 58= Pathology, 59= Dispensing drug, 60= Waste disposal/ incineration, 61= Pre delivery, 62= Delivery, 63= EOC, 64=Post delivery/recovery, 65=Clinical contraception, (IUD, Norplant, Tubectomy, NSV). 66 = Patient observation, 67 = DOTS, 68 = Cooking, 69= Washing, 70 = Common space, 71 = Storing, Others (Specify) _____,

3. Furniture, Fixture, Office Equipment, Medical Equipment and Other Fixed Assets

Space No. (refer map):			
Furniture, fixture, office equipment, and other fixed asset (use Master List 1)		Medical equipment (use Master List 2)	
Code	**Qty**	**Code**	**Qty**

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Drugs, Logistics and Supplies Used by CLINIC in 2004

Format B2

Conducted for

NGO Services Delivery Program, NSDP

With funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

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Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location (Urban = 1, Rural = 2) | Clinic Type (Static = 1, Comprehensive = 2)

Name of NGO:_____

Clinic Address: _____

_____

_____

Investigator's name and code:

Date of data collection (day/ month/ year): [ ][ ] [ ] [5]

day month year

Information on drug, logistics and supplies consumed during January 01-December 31, 2004

Code	**Generic Name**	**Form**	***Strength***	**Unit purchase Price (Tk.)**	**Unit sales Price (Tk.)**	**Qty used /sold (during the year)**
Drug						
111.	Albendazole	Tablet	400 mg / tab			
112.	Aluminium & Magnesium Hydroxide	Suspension	Ah 1682.7 mg & Mh 225 mg/ 5 ml			
113.	Aluminium & Magnesium Hydroxide	Tablet	Ah 250 mg & Mh 400 mg/ tab			
114.	Amlodipine	Tablet	5 mg/ tab			
115.	Amoxycillin	Capsule	250 mg/ cap			
116.	Amoxycillin	Capsule	500 mg/ cap			
117.	Amoxycillin	Oral Drop	125 mg/ 1.25 ml			
118.	Amoxycillin	Suspension	125 mg/ 5 ml			
119.	Ampicillin	Capsule	250 mg			
120.	Ampicillin	Capsule	500mg			
121.	Ampicillin	Suspension	125 mg/ 5 ml			
122.	Ampicillin	Injection	250 mg			
123.	Atenolol	Tablet	50 mg / tab			
124.	*Atropine*	Injection	0.6 mg			
125.	Benzathine Penicillin	Injection	6 lac/ vial			
126.	Benzathine Penicillin	Injection	12 lac/ vial			
127.	Benzyl Benzoite	Emulsion	25%			
128.	Benzyl Penicillin	Injection	5 lac/vial			
129.	Benzyl Penicillin	Injection	10 lac/vial			
130.	Calcium Carbonate	Tablet	250 mg/ tab (Chewable)			
131.	Calcium Carbonate	Tablet	500 mg/ tab			
132.	Calcium lactate	Tablet	300 mg/ tab			
133.	Cefexine	Capsule	200 mg/ cap			
134.	Cefexine	Suspension	100 mg/ 5 mll			
135.	Ceftriaxone	Injection	1gm/vial			
136.	Ceftriaxone	Injection	2 gm/vial			
137.	Cephalexin	Capsule	250 mg/ cap			
138.	Cephalexin	Capsule	500 mg/ cap			
139.	Cephalexin	Suspension	125 mg/ 5 ml			
140.	Cephradine	Capsule	250 mg/ cap			
141.	Cephradine	Capsule	500 mg/ cap			
142.	Cephradine	Suspension	125 mg/ 5 ml			
143.	Chloroquine	Tablet	250 mg / tab			
144.	Chloroquine	Suspension	80 mg / 5 ml			
145.	Chlorpheniramine maleate	Tablet	4 mg/ tab			
146.	Chlorpheniramine maleate	Syrup	2 mg/ 5 ml			
147.	Chlorumphenicol	Eye drop (Adult)	0.50%			
148.	Ciprofloxacin	Tablet	250 mg / tab			
149.	Ciprofloxacin	Tablet	500 mg / tab			
150.	Clobazam	Tablet	10 mg/ tab			
151.	Clotrimazole	Tablet (Vaginal)	100-200 mg			
152.	Clotrimazole	Cream	1%			
153.	Cloxacillin	Capsule	500 mg/ cap			
154.	Cloxacillin	Suspension	125 mg / 5 ml			
155.	Co-trimoxazole	Tablet	480 mg / tab			
156.	Co-trimoxazole	Syrup	240 mg/ 5 ml			
157.	Co-trimoxazole (DS)	Tablet	960 mg / tab			
158.	Dexamethasone	Injection	5 mg/ 1 ml			
159.	Dexamethasone	Tablet	0.5 mg / tab			
160.	Diazepam	Injection	10 mg / 2 ml			
161.	Diazepam	Tablet	5 mg / tab			
162.	Diclofenac	Tablet	25 mg/ tab			
163.	Diclofenac	Tablet	50 mg/ tab			
164.	Diclofenac	Injection	75 mg/ 3ml amp			
165.	Dormicum	Injection	5 mg			
166.	Doxycycline	Capsule	100 mg/ cap			
167.	Econazole	Tablet (Vaginal)	150 mg/ tab			
168.	Econazole (Pevaryl)	Cream	10 gm/ tube			
169.	Ergometrine	Injection	0.2 mg/ 1 ml			
170.	Ergometrine	Tablet	0.125 mg / tab			

Code	**Generic Name**	**Form**	***Strength***	**Unit purchase Price (Tk.)**	**Unit sales Price (Tk.)**	**Qty used /sold (during the year)**
171.	Erythromycin	Syrup	125 mg/ 5 ml			
172.	Erythromycin	Tablet	250 mg / tab			
173.	Erythromycin	Tablet	500 mg / tab			
174.	2 FDC (for TB) (Rifampicin + Isoniazid)	Tablet	Rif. 150 mg + Iso. 150 mg			
175.	3 FDC (for TB) (Rifampicin + Isoniazid + Pyrazinamide)	Tablet	Rif. 150mg +Iso 75mg + Pyr. 400mg			
176.	4 FDC (for TB) (Rifampicin + Isoniazid + Pyrazinamide + Ethambutal)	Tablet	Rif. 150mg +Iso 75mg + Pyr. 400mg + Eth. 275 mg			
177.	Ferrous Fumerate with Folic Acid	Tablet	200 mg + 200 mcg / tab			
178.	Ferrous Sulphate with Folic Acid	Tablet/ Capsule	FS 150 mg + FA 0.5 mg			
179.	Ferrous Sulphate (Iron)	Syrup	200 mg/ 5 ml			
180.	Flucloxacillin	Capsule	250 mg/ cap			
181.	Flucloxacillin	Capsule	500 mg/ cap			
182.	Flucloxacillin	Suspension	125 mg/ 5 ml			
183.	Fluconazole	Capsule/Tab	150 mg/ tab			
184.	Folic Acid	Tablet	5 mg / tab			
185.	Frusemide	Tablet	40 mg / tab			
186.	Gentamicin	Eye drop	0.30%			
187.	Gentamicin	Injection	80 mg/ 2 ml			
188.	Gentamicin (Paedia)	Injection	20 mg/ 2 ml			
189.	Gentian Violet	Solution	1%, 2%			
190.	Hydroclorothiazide	Tablet	75 mg / tab			
191.	Hydrocortisone	Injection	100 mg/ 2 ml			
192.	Hyoscine-n-butylbromide	Injection	20 mg/ 1 ml			
193.	Hyoscine-n-butylbromide	Tablet	10 mg / tab			
194.	Ibuprofen	Tablet	200 mg / tab			
195.	Ibuprofen	Tablet	400 mg / tab			
196.	Ketamine hydrochloride	Injection	50 mg/ ml			
197.	Ketoprofen	Tablet	50 mg/ tab			
198.	Ketoprofen	Tablet	100 mg/ tab			
199.	Levamisole	Tablet	40 mg/ tab			
200.	Levamisole	Suspension	40 mg/ 5 ml			
201.	Lignocaine	Injection	2% in 50 ml			
202.	Loratadine	Tablet	10 mg / tab			
203.	Magnesium salt	Injection	4% each 100 ml			
204.	Mebendazole	Tablet	100 mg / tab			
205.	Mebendazole	Syrup	100 mg/ 5ml			
206.	Methyl Ergometrine	Tablet	0.125 mg/ tab			
207.	Methyl Ergometrine	Injection	0.2 mg/1 ml amp.			
208.	Methyldopa	Tablet	250 mg / tab			
209.	Metoclopramide	Tablet	10 mg/ tab			
210.	Metoclopramide	Syrup	5 mg/ 5 ml 60 ml/ bottle			
211.	Metronidazole	Tablet	200 mg / tab			
212.	Metronidazole	Tablet	400 mg / tab			
213.	Metronidazole	Syrup	200 mg / 5 ml, 60 ml/ bottle			
214.	Multivitamin	Drop	15 ml bottle			
215.	Multivitamin + Mineral	Tablet	30 / pack			
216.	Nalidixic Acid	Suspension	300 mg/ 5 ml			
217.	Nalidixic Acid	Tablet	500 mg / tab			
218.	Naloxone hydrochloride	Injection	0.4 mg/ ml			
219.	Naloxone hydrochloride	Injection	0.02 mg/ ml			
220.	Neomycin-Bacitracin	Powder	5 mg + 9.16 mg/gm			
221.	Neomycin-Bacitracin	Ointment	5 mg + 4.18 mg/gm			
222.	Nystatin	Drop (Oral)	100,000 units/1ml			
223.	ORS	Powder	-			
224.	Oxytetracycline	Eye drop/ Ointment	1%			
225.	Oxytocin (Syntocinon)	Injection	5 iu /1 ml amp.			
226.	Paracetamol	Syrup	120 mg/ 5 ml			

Code	**Generic Name**	**Form**	***Strength***	**Unit purchase Price (Tk.)**	**Unit sales Price (Tk.)**	**Qty used /sold (during the year)**
227.	Paracetamol	Tablet	500 mg / tab			
228.	Pentazocine	Injection	30 mg			
229.	Permethrin	Cream 5% w/w	30 mg / tube			
230.	Pethedine hydrochloride	Injection	100 mg			
231.	Phenobarbitone	Tablet	60 mg / tab			
232.	Phenoxymethyl Penicillin	Tablet	250 mg / tab			
233.	Phenoxymethyl Penicillin	Syrup	125 mg / 5ml			
234.	Physostigmine	Injection				
235.	Prednisolone	Tablet	5 mg/ tab			
236.	Primaquine	Tablet	15 mg/ tab			
237.	Proclorperazine maleate	Tablet	5 mg/ tab			
238.	Proclorperazine maleate	Injection	12.5 mg/1ml amp			
239.	Promethazine	Tablet	10 mg / tab			
240.	Promethazine	Syrup	5 mg/ 5 ml			
241.	Propanolol	Tablet	10 mg/ tab			
242.	Quinine	Tablet	300 mg / tab			
243.	Quinine	Injection	300 mg/ 5 ml			
244.	Ranitidin	Tablet	150 mg / tab			
245.	Riboflavin	Tablet	5 mg / tab			
246.	Rofecoxib INN	Tablet	12.5 mg/ tab			
247.	Rofecoxib INN	Tablet	25 mg/ tab			
248.	Salbutamol	Syrup	2 mg/ 5 ml			
249.	Salbutamol	Tablet	4 mg/ tab			
250.	Secnidazole DS	Tablet	1 gm/ tab			
251.	Spectinomycin	Injection	2 gm/ 5ml vial			
252.	Streptomycin	Injection	1 gm/ vial			
253.	Sulfadoxin-pyrimethamine	Tablet	500 mg + 25 mg / tab			
254.	Tetracycline	Capsule	500 mg/ cap			
255.	Tetracycline	Eye Ointment	1%			
256.	Thiamine	Tablet	100 mg / tab			
257.	Thiopental Sodium	Injection	500 mg / amp			
258.	Thiopental Sodium	Injection	1gm / vial			
259.	Vitamin A	Capsule	200,000 IU			
260.	Vitamin B Complex	Tablet	-			
261.	Vitamin B Complex	Syrup	100 ml/ bottle			
262.	Vitamin B Complex	Syrup	200 ml/ bottle			
263.	Vitamin C	Tablet	250 mg/ tab			
264.	Whitfield	Ointment B A 6%+S A 3%	10, 15, 20, 25 or 30 mg per tube			
265.	Others (specify)					
Logistics and Supplies						
FP Commodities						
266.	Condom- govt.	Condom				
267.	Penther	Condom				
268.	Raza	Condom				
269.	SMC/Sensation	Condom				
270.	Femicon	Pill				
271.	Minicon	Pill				
272.	Nordette 28	Pill				
273.	Postinor	Pill				
274.	Sukhi	Pill				
275.	Norplant	S.C Implant				
276.	IUD	Intra Uterine				
277.	Depo-Provera (DMPA)	Injection				
Laboratory Reagents						
278.	Hb % reagent					
279.	TC Fluid					
280.	DC reagent					
281.	ESR Fluid					
282.	BT/CT reagent					
283.	Circulating Eosinophil Count reagent					

Code	**Generic Name**	**Form**	***Strength***	**Unit purchase Price (Tk.)**	**Unit sales Price (Tk.)**	**Qty used /sold (during the year)**
284.	RBC Count reagent					
285.	Platelate Count					
286.	Serum Billirubin reagent					
287.	Blood Sugar reagent					
288.	HBS Ag Reagent					
289.	HBsAg strip					
290.	Widal test reagent					
291.	VDRL reagent					
292.	Blood group reagent					
293.	Cholesterol reagent					
294.	R/A Test reagent					
295.	ASO Titer reagent					
296.	PCV reagent					
297.	Tuberculin Test reagent					
298.	Pregnancy test reagent					
299.	Pregnancy test strip					
300.	Urine Sugar/Albumin Strip					
301.	Urine for R/E					
302.	Stool for R/E					
303.	Sputum for AFB					
Vaccines						
304.	BCG Vaccine					
305.	DPT (Diphtheria, Pertusis, Tetanus) Vac.					
306.	Polio Vaccine					
307.	Measles Vaccine					
308.	Hepatitis B Vac. (Child)					
309.	Hepatitis B Vac. (Adult)					
310.	Tetanus Toxoid Vaccine					
311.	MMR Vaccine					
312.	Typhoid Vaccine					
313.	Anti-Rabies Vaccine					
314.	Hiberix Vaccine					
315.	Chicken Pox Vaccine					
316.	Tritan Rix Vaccine					

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Time Allocation Format of CLINIC Staff

Format C1

Conducted for

NGO Services Delivery Program, NSDP

With funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

HDRC Human Development Research Centre

Road # 8, House # 5, Mohammadia Housing Society

Mohammadpur, Dhaka-1207

Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location: Urban = 1, Rural = 2 | Clinic Type: Static = 1, Comprehensive = 2

Name of NGO:_____

Clinic Address: _____

_____

_____

Investigator's name and code:

Date of data collection (day/ month/ year): [ ][ ] [ ] [5]

day month year

Number of satellite spots _____

(List all staff in the clinic by name, use blank rows if necessary)

Staff Name (all)	Time dedication									
	Designation	Static	Satellite	Total (%)	Static			Satellite		
					Direct	Indirect	Total (%)	Direct	Indirect	Total (%)
	Clinic Manager			100			100			100
	Medical Officer			100			100			100
	Physicians (Part time)			100			100			100
	Paramedic			100			100			100
	Counselor			100			100			100
	Service Promotion Officer			100			100			100
	Service Promoter			100			100			100
	Laboratory Technician			100			100			100
	Midwife			100			100			100
	Nurse			100			100			100
	Office Assistant			100			100			100
	Clinic Aide			100			100			100
	Ambulance Driver			100			100			100
	Messenger			100			100			100
	Aya			100			100			100
	Guard			100			100			100
	Cleaner			100			100			100
	Depot holder (volunteer)			100			100			100
	Others (if any, specify)			100			100			100
				100			100			100

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

NSDP Funded NGO-HQs Staff Time Allocation Format

Format C2

Conducted for

NGO Services Delivery Program, NSDP

With funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

HDRC Human Development Research Centre

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Website www.hdrc-bd.com

NGO ID: | | |

Name of NGO:_____

NGO Address: _____

_____

_____

Investigator's name and code:

Date of data collection (day/ month/ year): | | | | | | | 5 |

day month year

NGO ID ☐☐

Number of static clinics managed: _____ ☐☐

Number of satellite spots managed: _____ ☐☐☐

(List all under the NSDP fund pay-roll by name, use blank rows if necessary)

Staff		**Time dedication**		
Name (all)	**Designation**	**Static**	**Satellite**	**Total (%)**
	Project Director			100
	Project Manager			100
	Monitoring Officer (Technical/Doctor)			100
	Monitoring Officer (non-doctor)			100
	Manager (Finance & Admin)			100
	Accountant			100
	Accounts Assistant			100
	MIS Officer			100
	MIS Assistant			100
	Documentation Officer			100
	Administrative Assistant			100
	Messenger			100
	Guard			100
	Cleaner			100
	Others (if any, specify)			100
				100

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Use of Medical Equipments by Services

Format D

Conducted for

NGO Services Delivery Program, NSDP

with funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

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Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location: Urban = 1, Rural = 2 | Clinic Type: Static = 1, Comprehensive = 2

Name of NGO:_____

Clinic Address: _____

_____

_____

Investigator's name and code: .....

Date of data collection (day/ month/ year): [ ][ ] day [ ] month [5] year

Code	Equipments	Used for providing services											
		Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code
201.	Air conditioner												
202.	Air conditioner												
203.	Alley's tissue forceps												
204.	Ambu bag												
205.	Autoclave (Electric)												
206.	Autoclave (Electric)												
207.	Autoclave (Electric)												
208.	Autoclave (Gas System)												
209.	Autoclave (Gas System)												
210.	Autoclave (Gas System)												
211.	Autoscope												
212.	Baby Cot												
213.	Baby Tray												
214.	Bed pan												
215.	Book (Skella)												
216.	BP handle												
217.	BP machine (Sphygmomanometer)												
218.	Cannula												
219.	Cannula												
220.	Centrifuge Machine												
221.	Colorimeter												
222.	Draping sheet												
223.	Droppler Instrument (Fetal)												
224.	Electric Boiler												
225.	Endo-tracheal tube												
226.	Endo-tracheal tube												
227.	ESR stand with tube												
228.	Fetoscope												
229.	First Aid Box												
230.	Foley's catheter												
231.	Forceps - Curve Artery												
232.	Forceps - Curve Artery												
233.	Forceps - Curve Artery												
234.	Forceps - Straight Artery												
235.	Forceps - Straight Artery												
236.	Forceps - Straight Artery												
237.	Forceps (Sponge Holding)												
238.	Forceps (Tooth dissecting)												
239.	Forceps Plain dissecting												
240.	Forceps- Norplant Removal												
241.	Gully pot												
242.	Height Scale												
243.	Height Scale												
244.	Incinerator												
245.	Instrument tray												
246.	Instrument tray												
247.	Instrument trolley												
248.	Jar – for Lifter												
249.	Lamp (Spirit)												
250.	Laryngoscope												
251.	Lifter												

Code	Equipments	Used for providing services											
		Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code
252.	Microscope												
253.	Microscope												
254.	Needle Crusher												
255.	Needle holder												
256.	Needle holder												
257.	Needle holder												
258.	NSV Kits-set												
259.	OT light												
260.	OT light												
261.	OT light												
262.	OT light												
263.	Oxygen cylinder												
264.	Oxygen cylinder												
265.	Oxygen cylinder												
266.	Oxygen Mask												
267.	Oxygen Flowmeter												
268.	Penile Model												
269.	Retractor												
270.	Room Heater												
271.	Saline stand												
272.	Scissors												
273.	Scissors												
274.	Scissors -Surgical												
275.	Scissors -Surgical												
276.	Scissors -Surgical												
277.	Spot Light/ Stand light												
278.	Speculum												
279.	Speculum												
280.	Sterilizer												
281.	Sterilizing Drum - Steam												
282.	Sterilizing Drum - Steam												
283.	Sterilizing Drum - Steam												
284.	Stethoscope												
285.	Stretcher												
286.	Sucker machine												
287.	Sucker machine												
288.	Table - Delivery /labor												
289.	Table- OT												
290.	Table- OT												
291.	Table Patient Examination												
292.	Tenaculum												
293.	Test Tube Holder												
294.	Test Tube Stand												
295.	Thermometer												
296.	Timer												
297.	Tongue Depressor												
298.	Tongue Depressor												
299.	Towel clip												
300.	Tray - Kidney												
301.	Tray - Kidney												
302.	Tray - Kidney												
303.	Tray Steel for medicine/												

Code	Equipments	Used for providing services											
		Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code	Service Code
	Demonstration												
304.	Trolley for Patient												
305.	Urine bag												
306.	Uterine Sound												
307.	View box (X-ray plate)												
308.	Weighing Machine												
309.	Weighing Machine												
310.	Other medical equipment (specify)_____												

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:
Customer Activity Log (OPD)

Format E

Conducted for
NGO Services Delivery Program, NSDP
with funding support from USAID/Dhaka
under subcontract with
Research Triangle Institute International, RTI
(Subcontract # 1-31U - 5420)

Conducted by

Human Development Research Centre
Road # 8, House # 5, Mohammadia Housing Society
Mohammadpur, Dhaka-1207
Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,
E-mail: info@hdrc-bd.com, hdrc@bangla.net,
Website www.hdrc-bd.com

Customer ID: [ ][ ][ ] [ ] [ ] [ ][ ]

NSDP clinic ID | Location (Urban = 1, Rural = 2) | Clinic Type (Static = 1, Comprehensive = 2, Satellite = 3) | Customer ID

Name of NGO:_____

Clinic Address: _____

_____

_____

Name of Observers: _____

_____

_____

_____

Date of observation (day/ month/ year): [ ][ ] [ ] [5]

day month year

Arrival time of customer: [ ][ ] [ ][ ]

Hr. Min

1. Name of the Customer..... .. 2. Age in years : ☐☐

(for child less than 1 yr. in month) : ☐☐

3. Sex : Male = 1, Female = 2 ..... ☐

4. Occupation of the Customer (if child then, person accompanying) (available in service card):..... ☐☐

5. Economic category of the Customer:

(a) LA (Last advantaged) = 1, NLA = 2 ..... ☐

(b) Poor =1, Non-poor = 2 ..... ☐

(c) Whether Holding VGD card : Yes = 1, No = 2 ..... ☐

(d) Whether divorced or widowed : Yes = 1, No = 2 ..... ☐

(e) Whether possessing cultivable land (in case of rural clinic) : Yes = 1, No = 2 ..... ☐

(f) Whether having stable income : Yes = 1, No = 2 ..... ☐

6. Reason(s) for coming the clinic: [Use service type code(s)]:..... ☐☐ ☐☐

(Multiple codes can be used as per requirement of services)

7. Customer Activity Log:

Sequence of events	1						2						3						4					
	Start Time			End Time			Start Time			End Time			Start Time			End Time			Start Time			End Time		
	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S
Registration																								
Counselor																								
Medical Officer																								
Paramedic																								
Nurse/ Midwife																								
Clinic aide																								
Aya																								
Immunization Technician																								
Lab. Tech. or in-charge																								
Procedure room																								
Recovery room																								
Dispense of medicine & payment																								
Clinic Manager																								
Office assistant																								
Other (Specify)																								

8. Laboratory examination and amount paid:

Done by: Doctor (1) | Paramedic (2) | Lab. Tech. (3) | (4) (put tick mark on appropriate box)

Code	Test	Amount paid in Taka
01	Haemoglobin (Hb%)	
02	Total Leukocyte Count (TLC/ TC)	
03	Differential Leukocyte Count (DLC/ DC)	
04	ESR	
05	Platelet count	
06	Sputum for AFB	
07	Blood Grouping	
08	VDRL	
09	Serum Bilirubin	
10	HB_SAg	
11	Random Blood Sugar (RBS)	
12	Widal Test	
13	ASO Titre	
14	Pregnancy Test	
15	Urine for Sugar	
16	Urine for Albumin	
17	Other (specify)_____	

9. Medicine and commodity issued (prescribed) to customer and amount paid:

Name/Code of Medicine/Commodity Prescribed	**Quantity of Medicine/ Commodity Prescribed**	**Quantity of Commodity/ medicine Purchased**	**Total amount paid by Customer (Tk)**

10. If all medicine or commodities are not purchased from clinic, what are the reason(s)?
……

11. How much money paid by customer for registration and/or service charge?

Registration fees: _____Tk
Service charge: _____Tk

If the customer left the clinic for sometime and intended to return again on the same day, then keep note

Time of leaving : Hour Minute ☐☐ ☐☐

- Time of Arrival : Hour Minute ☐☐ ☐☐

12. Departure time of Customer..... Hour Minute ☐☐ ☐☐

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Provider Activity Observation Format (Time Motion)

Format F

Conducted for

NGO Services Delivery Program, NSDP

with funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

Human Development Research Centre

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Mohammadpur, Dhaka-1207

Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location: Urban = 1, Rural = 2 | Clinic Type: Static = 1, Comprehensive = 2, Satellite = 3

Name of NGO:_____

Clinic Address: _____

_____

_____

Observer's name: .....

Date of data collection (day/ month/ year): [ ][ ] [ ] [5]

day month year

For satellite spots only. Distance between static and satellite (km) _____ [ ][ ]

Provider's name ………………………………………………………………………………………….

Provider's Type :	Doctor (1)	Paramedic (2)	Counselor (3)	Cl. Aide (4)

(Put tick mark in appropriate box

Provider Arrivval Time : ☐☐ ☐☐ (Hour Minute) **Provider Departure Time** : ☐☐ ☐☐ (Hour Minute)

Sequential activities of a Provider in a single day

Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								
Code	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type	Pro. Activity	Service type
Time Interval (in Min. & Sec.)								

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Delivery & EOC: Provider's Time and Customer's Cost

Format G

Conducted for

NGO Services Delivery Program, NSDP

with funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

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Road # 8, House # 5, Mohammadia Housing Society

Mohammadpur, Dhaka-1207

Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location: Urban = 1, Rural = 2 | Clinic Type: Static = 1, Comprehensive = 2

Name of NGO:_____

Clinic Address: _____

_____

_____

Investigator's name and code: .....

Date of data collection (day/ month/ year): [ ][ ] day [ ] month [5] year

1. Name of the Customer..... 5. Age in years : ☐☐

2. Occupation of Customer .....……

(of Husband……..)

3. Economic category of the Customer:

(a) Least advantaged (LA) = 1, NLA = 2 (available only if LA card is their) ……..…… ☐

(b) Poor = 1, Non-poor = 2 ..... …….…… ☐

Hour Minute

4. **Arrival time of Customer**.(if available) ☐☐ ☐☐

5. Date of admission : ☐☐ ☐☐ ☐

Hour Minute

6. **Time of Admission :** ☐☐ ☐☐

7. Admission Type : Normal delivery 1 1 , EOC without caesarian 1 2 , Caesarian Section 1 3

8. Estimated time for the procedure

Service Provider	# of Service Provider	Pre-procedure/Pre-delivery Observation				Delivery/Procedure Conducted				Recovery Care				Grand Total of time spend by each Service provider			
		Total time		Time spend by each Service provider		Total time		Time spend by each Service provider		Total time		Time spend by each Service provider					
		Hour	Minute	Hour	Minute	Hour	Minute	Hour	Minute	Hour	Minute	Hour	Minute	Hour	Minute		
Specialist/ Consultant																	
Anesthesiologist																	
Medical Officer																	
Nurse																	
Midwife																	
Paramedic																	

9. Laboratory examination and amount paid :

Done by: Doctor (1) | Paramedic (2) | Lab. Tech. (3) | (4)

Code	Test	Amount paid in Taka
01	Haemoglobin (Hb%)	
02	Blood Grouping	
03	VDRL	

Code	Test	Amount paid in Taka
04	HB_SAg	
05	Blood sugar	
05	Urine for Sugar	
06	Urine for Albumin	
07	Pregnancy Test	

10. Total valuation of the package (Tk.) ..... 11. Amount paid by the customer (Tk.) .....

12. Breakdown of the valuation of package (if available)

a. Registration fee: ....(Tk.)
b. Service charge : .... (Tk.)
c. Delivery room fee: .... (Tk.)
d. Bed charge : .... (Tk.)
e. Medicine cost: .... (Tk.)
f. Ambulance fee : .... (Tk.)
g. Laboratory charge: .... (Tk.)
h. Other charges: (specify .....).... .... (Tk.)

13. Medicine and commodity issued to customer after delivery/procedure and amount paid:

Name/Code of Medicine/Commodity Prescribed	Quantity of Medicine/Commodity Prescribed	Quantity of Medicine/ Commodity Purchased	Total amount paid by Customer (Tk)

Minute Hour

14. Date of Discharge : ☐☐ ☐ ☐ (Actual/ Expected)

15**. Time of Discharge :** ☐☐ ☐☐ (Actual/ Expected)

Data Provided by :…… ……. Signature……date: ……..2005

Data Collected by……. Signature…….date……2005

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Annual Client-flow Statement of CLINIC

Format H

Conducted for

NGO Services Delivery Program, NSDP

with funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

HDRC Human Development Research Centre

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Mohammadpur, Dhaka-1207

Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location: Urban = 1, Rural = 2 | Clinic Type: Static = 1, Comprehensive = 2

Name of NGO:_____

Clinic Address: _____

_____

_____

Investigator's name and code: .....

Date of data collection (day/ month/ year): [ ][ ] [ ] [5]

day month year

Background Information

# of Population covered	
# of Depot Holder areas	
# of Satellite sessions conducted	

Client-flow January 01, 2004 – December 31, 2004

	Static	Satellites	Total
Total customers			
# of Poor customers			
# of non poor customers			
A. CHILD HEALTH			
EPI			
BCG			
DPT1/Pollio1			
DPT2/Pollio2			
DPT3/Pollio3			
Measeles/Pollio4			
Hepatitis B vaccine (HbsAg)			
CDD (children under 1 year)			
No dehydration (Plan A)			
Some dehydration (Plan B)			
Severe dehydration (Plan C)			
Dysentery			
Vitamin A supplementation (children under 1 year)			
Vitamin A with measles vaccine			
ARI (children under 1 year)			
Cough (no pneumonia)			
Pneumonia			
Severe pneumonia			
IMCI excluding (CDD and ARI)			
CDD (children 1 - 5 years)			
No dehydration (Plan A)			
Some dehydration (Plan B)			
Severe dehydration (Plan C)			
Dysentery			
Vitamin A supplementation (children 1 – 5 years)			
Vitamin A with measles vaccine			
ARI (children 1- 5 years)			
Cough (no pneumonia)			
Pneumonia			
Severe pneumonia			
IMCI excluding (CDD and ARI)			
B. MATERNAL HEALTH			
ANC			
ANC 1st visit			
ANC 2nd visit			
ANC 3rd visit			
ANC 4th and more visit			
PNC			
PNC 1st visit			
PNC revisit			
Vitamin A supplementation			
TT (Pregnant women)			
TT 1			
TT 2			
TT 3			
TT 4			
TT 5			
TT (Non-pregnant women)			
TT 1			
TT 2			
TT 3			
TT 4			
TT 5			
Delivery and PAC			
Delivery performed			
Delivery cases referred after observation			
Post abortion care (comprehensive)			

	Static	Satellites	Total
C. FAMILY PLANNING			
Methods			
Pill			
Condom			
Injectable			
IUD			
Norplant			
Vasectomy			
Tubectomy			
Non-method			
ECP			
Side Effect Management			
Pill			
Condom			
Injectable			
IUD			
Norplant			
Vasectomy			
Tubectomy			
ECP			
FP complication and removal			
FP complication			
IUD			
Norplant			
D. OTHER HEALTH SERVICES			
STI			
RTI			
E. COMMUNICABLE DISEASES			
Tuberculosis			
Malaria			
F. LCC			
LCC treatment (under 5 years)			
LCC treatment (5 + years)			
G. REFERRAL			
Some dehydration (plan B)			
Severe dehydration (plan C)			
Dysentery			
Pneumonia			
Severe pneumonia			
Normal Delivery			
EmOC			
Comprehensive PAC			
Injectable			
IUD			
Norplant			
Vasectomy			
Tubectomy			
ECP			
Family planning complications/side-effects			
STI/RTI			
TB			
Malaria			
LCC			

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Questionnaire: Customer Survey

Format I

Conducted for

NGO Services Delivery Program, NSDP

with funding support from USAID/Dhaka

under subcontract with

Research Triangle Institute International, RTI

(Subcontract # 1-31U - 5420)

Conducted by

HDRC Human Development Research Centre

Road # 8, House # 5, Mohammadia Housing Society

Mohammadpur, Dhaka-1207

Phone: (880 2) 8116972, 8157621, Fax (880 2) 815 7620,

E-mail: info@hdrc-bd.com, hdrc@bangla.net,

Website www.hdrc-bd.com

Customer ID: [ ][ ][ ] [ ] [ ] [ ][ ]

NSDP clinic ID | Location: Urban = 1, Rural = 2 | Clinic Type: Static = 1, Comprehensive = 2, Satellite = 3 | Customer ID

Name of NGO:_____

Clinic Address: _____

_____

_____

Name of Observers: _____

_____

_____

_____

Date of observation (day/ month/ year): [ ][ ] [ ] [5]

Respondent (in case of child, person accompanying) ……day…..month..year……

1. Customer related background information for office use (copy from Format E)	
1.1. Customer arrival time (HH:MM) (‡mev MÖnxZvi Dcw¯'Z nevi mgq): _____ : _____	
1.2. Customer's Name and Address (‡mev MÖnxZvi bvg I wVKvbv): ----------	
1.3. Age (eqm, c~Y© eQ‡i): _____ (in completed years).	
1.4. Gender (wj½u): Female = 1, Male = 2.	
1.5. Occupation of the customer (if child then, person accompanying): (‡ckv (wkï n‡j, cÖvß eq®‹ whwb wkïwUi mv‡_ G‡m‡Qb Zvi):_____	
1.6. Reason(s) for coming the clinic: [Use visit type code(s)]:..... (Multiple codes can be used as per requirement of services)	
1.7. Customer socio-economic status according to NSDP card : card (NSDP-i KvW© Abymv‡i MÖnxZvi Av_©-mvgvwRK Ae¯'v) LA (mePvB‡Z ewÂZ) =1, NLA =2	
1.8. Customer socio-economic status (MÖnxZvi Av_©-mvgvwRK Ae¯'v) : Poor (`wi`ª) = 1, Non-poor (`wi`ª bq) = 2	
1.9. Customer socio-economic status (†mevMÖnxZvM‡Yi Av_©-mvgvwRK Ae¯'v) Yes / No VGD card holder (wfwRwW KvW©avix) 1 / 2 Divorced/widowed/separated (ZvjvKcÖvß/weaev/wew"Qbœ) 1 / 2 Have cultivatable land ownership (Avev`‡hvM¨ f~wg gvwjKvbv Av‡Q) 1 / 2 Have stable income flow (w¯'wZkxj Avq) 1 / 2	
2. Distance, traveling mode, time and cost (`~iZ¡, hvZvqvZ gva¨g, mgq Ges LiP)	
Distance of this clinic from your house (Avcbvi evox †_‡K wK¬wb‡Ki `~iZ¡ KZ?) _____(km)	
2.2. (a) How did you get here, walking, rickshaw or bus? (GLv‡b Avcwb wKfv‡e G‡jb, †nu‡U, wi·v A_ev ev‡m?) Walking=1, Rickshaw= 2, Bus= 3, Others = 4 (b) How much time did it take you today to reach this clinic from your home? (Avcbvi evox †_‡K GB wK¬wb‡K †cŠQ‡Z AvR KZ¶Y †j‡M‡Q?) _____ (minutes)	
2.3. How much you had to pay for transport to come to the clinic (wK¬wb‡K Avm‡Z hvbevnb eve` KZ LiP n‡q‡Q?) _____TK	

3. Reasons for choosing visiting time (†mevMÖnxZvi mgq wbe©vPb)	
3.1. (a) Do you think that the time of your today's visit is convenient for you? (Avcwb wK g‡b K‡ib AvR Avcbvi Avmvi GB mgqwU Avcbvi c‡¶ myweavRbK?) Yes = 1, No = 2	
(b) Reasons for convenience/inconvenience? (myweav/Amyweavi KviY) **myweavmg~n:** GB mgq evmvi KvR †m‡i wK¬wb‡K Avm‡Z myweav nq =1, fxo Kg _v‡K =2, Wv³vi mgq w`‡Z cv‡i =3, ‡ewk ‡`wi Ki‡Z nq bv = 4, GB mgq Wv³vi cvIqv hvq = 5, GB mgq cÖwZ‡ekx‡`i mv‡_ wK¬wb‡K Avmv hvq = 6, GB mgq evwo‡Z ev"Pv ivLvi †jvK _v‡K = 7 Ab¨vb¨ (D‡j-L Ki"b)..... = 8 **Amyweavmg~n:** Wv³viiv mgq w`‡Z cv‡ib bv = 1, msmv‡i KvR _v‡K ZvB Avm‡Z cvwi bv = 2, GB mgq bv Avm‡j Wv³vi cvIqv hvq bv = 3 GB mgq ev"Pv wb‡q ¯‹z‡j _vK‡Z nq = 4, ‡ewk †`ix nq =5 fxo †ewk _v‡K =6 Ab¨vb¨ (D‡j-L Ki"b)..... = 7	
(c) If today's visit time is not convenient, what would be the most convenient time for you to visit the clinic? (hw` AvR G mgqUv myweavRbK bv nq Z‡e †Kvb mgqUv Avcbvi c‡¶ GB wK¬wb‡K Avmv myweavRbK?) Time (hr/min): ..... `ycy‡ii ci Avm‡j fxo Kg _v‡K =1, weKv‡j Avm‡j myweav nq = 2, mKvj 9Uvi mgq Avm‡j fxo Kg _v‡K = 3 Ab¨vb¨ (D‡j-L Ki"b)..... = 4	
4. Perception about peak hours (me‡P‡q fx‡oi mgq Abyf~wZ)	
4.1. According to your opinion what is the busiest hour in this clinic? (Avcbvi g‡Z GB wK¬wb‡K e¨¯—Zg mgq KLb?) (from _____to _____hrs), Never busy = 9999 (Interview ends)	

4.2.	What could be the reasons for too many people visiting the clinic during these hours? (G mgq GB wK¬wb‡K GZ †ekx †jvK Avmvi KviY wK wK n‡Z cv‡i?) evox‡Z KvR _v‡K bv = 01, GB mgq wK¬wb‡K eo Wv³vi _v‡K, we‡K‡j eo Wv³vi _v‡K bv = 02, we‡K‡j wb‡Ri I ev"Pv‡`i wek$v‡gi mgq = 03, mKv‡j G‡m Jla wb‡q †M‡j Ges †L‡j weKv‡j Amy¯'Zvi Ae¯'v †evSv hvq Ges †m Ae¯'v ey‡S Avevi ciw`b Avmv hvq = 04, c‡i Avm‡j fvj †mev cv‡e bv GB f‡q fxo n‡jI GB mgq Av‡m = 05, weKv‡j Wv³vi A¯^w¯— †eva K‡ib, K¬vš— _v‡Kb ZvB fvjfv‡e †`‡Lb bv = 06, ev"Pviv ¯‹z‡j _v‡K e‡j †`Lvïbvi Sv‡gjv _v‡K bv = 07, we‡K‡j evwo‡Z Kv‡Ri Pvc ‡ewk _v‡K (¯‹zj †_‡K ev"Pv wd‡i Av‡m, evmvq wUPvi Av‡m, M„n¯^vgx KvR †_‡K Av‡m, †gngvb †eov‡Z Av‡m BZ¨vw`) = 08, cÖwZ‡ekxiv GB mgq Av‡m, Zv‡`i mv‡_ Avmvi Rb¨I A‡b‡K Av‡m= 09, ev"Pv‡`i wUKv †`qvi GUvB mgq, Ab¨ mgq ev"Pv‡`i wUKv †`qv nq bv= 10, c‡i Avm‡jI fxo n‡Z cv‡i = 11, Ab¨vb¨ (D‡j-L Ki"b)..... = 12	

5.	**Problems of peak hours**	
5.1.	In your opinion is the care people receive affected during the busiest hour (Avcbvi g‡Z fx‡oi mgq †mev cÖ`vbKvixiv wK mwVKfv‡e †mev w`‡Z cv‡ib?) Yes = 1, No = 2, 3 = Don't know (skip)	
5.2.	If yes, how? (n¨uv n‡j, wKfv‡e?) ‡Kvb mgm¨v nq bv =1, Jla †L‡q P‡j hvB =2, Wv³viiv Lye Avš—wiK ZvB mgm¨v nq bv =3, Ab¨ mgq Avm‡jI Wv³viiv GKB iKg Zvovûov K‡ib = 4, Rvwb bv = 5, Ab¨vb¨ (D‡j-L Ki"b) ..... = 6 If no, why not? (bv n‡j †Kb?) Wv³vi wVKgZ †`L‡Z cv‡i bv/ Zvovûov K‡i ‡ivMx †`L‡Z nq =1, e‡m _vK‡Z nq, †ewk mgq A‡c¶v Ki‡Z nq =2, fvj †mev cvq bv =3, e‡m _vK‡Z Lvivc jv‡M, A¯^w¯— jv‡M = 4, ‡ivMx †`L‡Z †`L‡Z Wv³vi wei³ n‡q c‡ob = 5, weKv‡j Wv³vi A¯^w¯— †eva K‡ib, K¬vš— _v‡Kb ZvB fvjfv‡e †`‡Lb bv = 6, Ab¨vb¨ (D‡j-L Ki"b)..... = 7	
6.	**Willingness to visit at non-busy hours**	
6.1.	Will you be willing to come in the future at non-busy time (Avcwb wK fwel¨‡Z Kg fx‡oi mgq Avm‡Z Pvb)? Yes = 1, No = 2	
6.2.	If yes, why? (n¨uv n‡j, †Kb?) Kg fx‡oi mgq G‡j Sv‡gjv †cvnv‡Z nq bv =1, Wv³v‡ii Kv‡Q †ewk K_v ejv hv‡e =2, Wv³viiv g‡bv‡hvM mnKv‡i †ivMx †`L‡eb =3, fvj †mev cvIqvi Rb¨ = 4, Kg fx‡oi mgq Wv³viiv gvbwmKfv‡e fvj _v‡Kb = 5, ‡ewk mgq A‡c¶v Ki‡Z/AcPq Ki‡Z n‡e bv = 6 Ab¨vb¨ (D‡j-L Ki"b)..... = 7 (skip to 7.2) If no, why not? (bv n‡j, †Kb?) Avgvi myweav ey‡S Avme, wK¬wb‡K fxo _vKzK ev bv _vKyK =1, m½x cvIqv hvq bv =2, hLb wK¬wb‡K Wv³vi _v‡Kb ZLbB fxo nq, Wv³vi bv _vK‡j fxo _v‡K bv ZvB Wv³vi‡K cvIqvi Rb¨ GB mg‡qB Avm‡Z nq = 3, ‡ewk fxo/ Kg fx‡oi mgq GKB †mev cvIqv hvq = 4, weKvj †ejvq KvR ‡ewk _v‡K Avm‡Z mgm¨v nq = 5, Ab¨vb¨ (D‡j-L Ki"b)..... = 6	
7.	**Suggestion for clinics to attract customers at non-busy hours**	
7.1.	Is there something extra that the clinic can do to make you come at non-busy hour? (Avcwb hv‡Z Kg fx‡oi mgq Avm‡Z cv‡ib †m Rb¨ GB wK¬wbK Av‡iv wKQy Ki‡Z cv‡i wK?) Yes = 1, No = 2 (Interview End)	

7.2.	What clinic can do make you come at non-busy hour? (Avcwb hv‡Z Kg fx‡oi mgq Av‡mb GRb¨ wK¬wb‡Ki c¶ †_‡K wK wK Kivi Av‡Q?) (probe here (hvPv&B Ki“b): waiting time (A‡c¶vi mgq), doctor/paramedic provides more time (Wv³vi/†civ‡gwWK Av‡iv mgq †`‡eb), discount (Kg UvKv †bqv), appointment system (†`Lv‡bvi Rb¨ Av‡M †_‡K Wv³v‡ii mgq wVK Kiv) , changing clinical hours (wK¬wb‡Ki mgq e`‡j †djv)  Avgv‡`i hw` wK¬wbK †_‡K Wv³vi fvj K‡i †`‡L Ges †ewk mgq †`b =1, eo Wv³v‡ii msL¨v evov‡bv hv‡Z `ycy‡ii ci eo Wv³vi _v‡Kb =2, cÖ‡Z¨K †iv‡Mi Rb¨ Avjv`v Avjv`v mgq fvM K‡i w`‡j =3, Jl‡ai `vg Kg wb‡j = 4, Mixeiv †h UvKv Av‡bb †m UvKvB wb‡j = 5, Ab¨vb¨ (D‡j-L Ki“b)..... = 6	

THANK YOU VERY MUCH (Avcbv‡K A‡bK ab¨ev`)

Signature of the interviewer (with date):

Signature of the Field Team Manager (with date):

Signature of the QCO (with date):

Study on Cost Structure and Staff Utilization of NSDP NGOs

Data Collection Instrument:

Guideline and Checklist for Bringing out Standard Time

Format J

Conducted for
NGO Services Delivery Program, NSDP
With funding support from USAID/Dhaka
under subcontract with
Research Triangle Institute International, RTI
(Subcontract # 1-31U - 5420)

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Clinic ID: [ ][ ][ ] [ ] [ ]

NSDP clinic ID | Location (Urban = 1, Rural = 2) | Clinic Type (Static = 1, Comprehensive = 2)

Name of NGO:_____

Clinic Mailing Address: _____

_____

(Telephone/mobile): _____

Expert Respondent's name and Designation: _____

Doctor [ ] Paramedic [ ]

We hope we are aware that the services offered by the 'smiling sun' static and satellite clinics through the doctor, paramedics and counselors are one of the quality services in the context of health services offered by NGOs of Bangladesh. Although there is a universal standard and protocol for provision of these services, there is no such standard time in black and white for this purpose. Suppose, we know how the antenatal care is to be provided and what protocol is to be followed as there is some government and NIPHP approved standards and protocols for this purpose. But, it is not written anywhere regarding how much time should be taken to provide this ANC service-- its history taking, physical examination, note taking, review of records, counseling, prescription writing, etc. In this context we would like to seek your opinion regarding how much time should be taken for each patient (by types of services) to provide the services in the smiling sun clinics maintaining approved standards and protocols.

Let's start from reproductive health services.

Services	**Average Time Reqd. in Standard Situation (time in seconds)**
Reproductive Health Services:	
a. Antenatal Care (ANC)- First visit	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Routine laboratory test	
6. Writing prescription	
7. Verbal advice/ Instruction to client	
Total	
b. Antenatal Care (ANC)- Revisit	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Routine laboratory test	
6. Writing prescription	
7. Verbal advice/ Instruction to client	
Total	
c. Postnatal Care (PNC)- First visit	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Physical examination of newborn	
6. Writing prescription	
7. Verbal advice/ Instruction to client	
Total	
d. Postnatal Care (PNC)- Revisit	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Physical examination of newborn	
6. Writing prescription	
7. Verbal advice/ Instruction to client	
Total	
e. RTI/STI- First visit	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
f. RTI/STI- Revisit	

*[**Note:** This checklist will be sent to listed service providers (doctors and paramedics) of the smiling sun clinics to send their inputs. After compilation of the data, the range of standard time will be brought out. The same service providers will be will be invited afterwards to discuss the areas where the range is too wide and a consensus will be built.]*

Services	Average Time Reqd. in Standard Situation (time in seconds)
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
g. Post Abortion Care (PAC)	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Pre-procedural preparation	
6. Perform procedure	
7. Post-procedure confinement	
8. Writing prescription	
9. Verbal advice/ Instruction to client	
Total	
h. TT to non-pregnant woman	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Provision of TT vaccine	
5. Verbal advice/ Instruction to client	
Total	
i. TT to pregnant woman	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Provision of TT vaccine	
5. Verbal advice/ Instruction to client	
Total	
Family Planning (FP) Services:	
a. Provision of Condom	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Provision of Condom	
5. Verbal advice/ Demonstration to client	
Total	
b. Emergency Contraceptive Pill (ECP)	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Writing prescription	
5. Observing intake of first doze of pill	
6. Verbal advice/ Instruction to client	
Total	
c. FP Side-effect Management	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Procedure (if any)	
6. Writing prescription	
7. Verbal advice/ Instruction to client	
Total	
d. Injectable (New Customer)	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Providing the first injection	
7. Verbal advice/ Instruction to client	
Total	
e. Injectable (Old Customer)	
1. History taking	
2. Reviewing of records	

Services	Average Time Reqd. in Standard Situation (time in seconds)
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Providing the first injection	
7. Verbal advice/ Instruction to client	
Total	
f. Intra Uterine Device (IUD)- Insertion	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Pre-procedural preparation	
6. Perform procedure	
7. Post-procedure confinement	
8. Writing prescription	
9. Verbal advice/ Instruction to client	
Total	
g. Intra Uterine Device (IUD)- Removal	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Pre-removal preparation	
6. Removal procedure	
7. Post-removal confinement	
8. Writing prescription	
9. Verbal advice/ Instruction to client	
Total	
h. Tubectomy (Minilap)	Not applicable for Paramedic
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Pre-procedural preparation	
6. Perform procedure	
7. Post-procedure confinement	
8. Writing prescription	
9. Verbal advice/ Instruction to client	
Total	
i. Vasectomy (NSV)	Not applicable for Paramedic
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Pre-procedural preparation	
6. Perform procedure	
7. Post-procedure confinement	
8. Writing prescription	
9. Verbal advice/ Instruction to client	
Total	
j. Norplant Implantation	Not applicable for Paramedic
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Pre-procedural preparation	
6. Perform procedure	
7. Post-procedure confinement	
8. Writing prescription	
9. Verbal advice/ Instruction to client	
Total	
k. Norplant Removal	Not applicable for Paramedic
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Pre-procedural preparation	
6. Perform procedure	
7. Post-procedure confinement	

Services	Average Time Reqd. in Standard Situation (time in seconds)
8. Writing prescription	
9. Verbal advice/ Instruction to client	
Total	
l. Oral Pill- New Customer	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
m. Oral Pill- Old User	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
Child Health Services:	
a. Acute Respiratory Infection (ARI)	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
b. Diarrhoeal Diseases	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
c. Immunization (DPT, DT & Polio)	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Administering Vaccine	
5. Verbal advice/ Instruction to client	
Total	
d. Immunization (Hepatitis B)	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Administering Vaccine	
5. Verbal advice/ Instruction to client	
Total	
Limited Curative Care (LCC): Common cold; GIT diseases, skin diseases, helminthiasis, anaemia	
a. Common Cold	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
b. GIT Diseases	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
c. Skin Diseases	

Services	Average Time Reqd. in Standard Situation (time in seconds)
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
d. Helminthiasis	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Writing prescription	
5. Verbal advice/ Instruction to client	
Total	
e. Anaemia	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
Communicable Diseases	
a. Tuberculosis	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
b. Malaria	
1. History taking	
2. Reviewing of records	
3. Writing notes	
4. Physical examination	
5. Writing prescription	
6. Verbal advice/ Instruction to client	
Total	
Delivery care, EOC and referral for RH services has been excluded considering the heterogeneous nature of the situation	

MASTER LISTs

1: Furniture, Fixture, Office Equipment, and Other Fixed Asset
(except building and land)

Code	Item
197.	Advertisement Boards
198.	Air conditioner (split type)
199.	Air conditioner (window type)
200.	Ambulance
201.	Basin Elbow
202.	Basin Simple
203.	Battery (Car)
204.	Bench
205.	Bi-cycle
206.	Board (BCC board)
207.	Board (Bill Boards)
208.	Board (Black)
209.	Board (Demonstration board)
210.	Board (location finder)
211.	Board (Sign Boards)
212.	Board (white board)
213.	Bucket
214.	Cabinet File
215.	Cabinet Medicine
216.	Cassette player
217.	Chair
218.	Chair customer
219.	Chair Executive
220.	Chair Executive (high back)
221.	Chair Office (armed)
222.	Chair Semi Executive
223.	Chair steel
224.	Chair Visitor (office)
225.	Chair wooden
226.	Chair working
227.	Chairs customer waiting room (plastic)
228.	Chairs Office (arm less)
229.	Charger Light
230.	Commode/Pan
231.	Computers with printers and UPS
232.	Curtains (parda)
233.	Demonstration models
234.	Fan Ceiling
235.	Fan Exhaust
236.	Fan Pedestal / Stand
237.	Fan Table
238.	Fan Wall mounted
239.	File rack
240.	Gas burner/stove
241.	Generator
242.	Hand hold flash light
243.	Hand washing drum/ Pot
244.	Illumination Lamps (bulb/ tube light)
245.	Instrument rack/cabinet
246.	IPS
247.	Iron electric
248.	Iron safe
249.	Laboratory furniture
250.	Laud speaker, microphone/ hand mike
251.	Motorcycle
252.	Multimedia projector
253.	OT Table
254.	Other furniture/ equipment (above Tk. 300)
255.	Over head projector
256.	Partition (permanent /folding)

Code	Item
257.	Patient bed
258.	Photo copier
259.	Projection screen
260.	Rack (without glass)
261.	Rack with glass/showcase
262.	Reagent cabinet
263.	Refrigerator (Normal/standard)
264.	Refrigerator(deep)
265.	SP/MIS shelves
266.	Steel wardrobe (almirah)
267.	Steps for examination table
268.	Stool
269.	Stool revolving
270.	Table
271.	Table BCC
272.	Table Bedside
273.	Table Conference
274.	Table for satellite clinics
275.	Table Full Secretariat
276.	Table Half secretariat
277.	Table Laboratory
278.	Table Office
279.	Table Patient examination
280.	Table Training Room
281.	Table with drawers
282.	Table with rack
283.	Table with shelve
284.	Table Working
285.	Telephone set
286.	TV
287.	TV trolly
288.	VCR/VCD player
289.	Wall Clock
290.	Water filter
291.	Wheel Chair
292.	Wooden steps

MASTER LIST 2: MEDICAL EQUIPMENT

Code	Item	Type	Price (Tk.)
201.	Air conditioner	Split	
202.	Air conditioner	Window	
203.	Alley's tissue forceps		
204.	Ambu bag		
205.	Autoclave (Electric)	Small	
206.	Autoclave (Electric)	Medium	
207.	Autoclave (Electric)	Large	
208.	Autoclave (Gas System)	Small	
209.	Autoclave (Gas System)	Medium	
210.	Autoclave (Gas System)	Large	
211.	Autoscope		
212.	Baby Cot		
213.	Baby Tray		
214.	Bed pan		
215.	Book (Skella)		
216.	BP handle		
217.	BP machine (Sphygmomanometer)		
218.	Cannula	IV	
219.	Cannula	Spinal	
220.	Centrifuge Machine		
221.	Colorimeter		
222.	Draping sheet		
223.	Droppler Instrument (Fetal)		
224.	Electric Boiler		
225.	Endo-tracheal tube	Adult size	
226.	Endo-tracheal tube	Baby size	
227.	ESR stand with tube		
228.	Fetoscope		
229.	First Aid Box		
230.	Foley's catheter		
231.	Forceps - Curve Artery	Small	
232.	Forceps - Curve Artery	Medium	
233.	Forceps - Curve Artery	Long	
234.	Forceps - Straight Artery	Small	
235.	Forceps - Straight Artery	Medium	
236.	Forceps - Straight Artery	Long	
237.	Forceps (Sponge Holding)		
238.	Forceps (Tooth dissecting)		
239.	Forceps Plain dissecting		
240.	Forceps- Norplant Removal		
241.	Gully pot		
242.	Height Scale	Adult	
243.	Height Scale	Child	
244.	Incinerator		
245.	Instrument tray	With lid	
246.	Instrument tray	Without lid	
247.	Instrument trolley	Mayo	
248.	Jar – for Lifter		
249.	Lamp (Spirit)		
250.	Laryngoscope		
251.	Lifter		
252.	Microscope	Binocular	
253.	Microscope	Monocular	
254.	Needle Crusher		
255.	Needle holder	Small	
256.	Needle holder	Medium	
257.	Needle holder	Large	
258.	NSV Kits-set		
259.	OT light	Five bulb	
260.	OT light	Four bulb	
261.	OT light	Three bulb	
262.	OT light	Two bulb	
263.	Oxygen cylinder	Small	
264.	Oxygen cylinder	Medium	
265.	Oxygen cylinder	Large	
266.	Oxygen Mask		
267.	Oxygen Flowmeter		

Code	Item	Type	Price (Tk.)
268.	Penile Model		
269.	Retractor	Doyen's	
270.	Room Heater		
271.	Saline stand		
272.	Scissors	Episiotomy	
273.	Scissors	Ordiniary	
274.	Scissors -Surgical	Stitch cutting	
275.	Scissors -Surgical	Large	
276.	Scissors -Surgical	Medium	
277.	Spot Light/ Stand light		
278.	Speculum	Sim's	
279.	Speculum	Cuscos	
280.	Sterilizer	IUD	
281.	Sterilizing Drum - Steam	Small	
282.	Sterilizing Drum - Steam	Medium	
283.	Sterilizing Drum - Steam	Large	
284.	Stethoscope		
285.	Stretcher		
286.	Sucker machine	Electrical	
287.	Sucker machine	Manual	
288.	Table - Delivery /labor		
289.	Table- OT	Hydraulic	
290.	Table- OT	Non-hydraulic	
291.	Table Patient Examination		
292.	Tenaculum		
293.	Test Tube Holder		
294.	Test Tube Stand		
295.	Thermometer		
296.	Timer		
297.	Tongue Depressor	Metallic	
298.	Tongue Depressor	Plastic	
299.	Towel clip		
300.	Tray - Kidney	Small	
301.	Tray - Kidney	Medium	
302.	Tray - Kidney	Large	
303.	Tray Steel for medicine/ Demonstration		
304.	Trolley for Patient		
305.	Urine bag		
306.	Uterine Sound		
307.	View box (X-ray plate)		
308.	Weighing Machine	Adult	
309.	Weighing Machine	Baby	
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		
	Other medical equipment (specify)_____		

MASTER LIST 3 : PROVIDER ACTIVITY CODE

Activities while in contact with Client

1. Registration
2. History taking & reviewing of record(s)
3. Physical examination,
4. Pre-procedural preparation & Performance of Procedure
5. Writing notes and Prescription, Referral
6. Advice/ Instruction & counseling to client
7. Doing laboratory test
8. Dispensing drugs/ commodities
9. Providing support to another provider
10. Talking with other client
11. Providing service out side the Static clinic

} Considering the nature & importance, these three activities will be considered as contact with client

12. **Activities without in contact with client but related to their services**

13. Administrative tasks (*Includes: Filling of customer doc., Preparation of monthly/annual report, Maintenance of petty cash, Maintenance of drug stock ledger, Supervision and monitoring work, Service related telephone call etc.)*
14. Meeting & Training (*Includes: Providing Training or attending training, Discussion with staff, Official Visitor attended)*
15. Washing hand
16. Waiting for cleaning, work room preparation, equipment preparation

17. **Activities neither related to client nor to their services (Downtime)**

18. Absent on personal ground
19. Arrived late
20. Chatting with other staff
21. Left early
22. Lunch break
23. News paper reading
24. Prayer break
25. Tea or coffee break
26. Telephone call (personal)
27. TV watch
28. Using toilet
29. Visitor attended (personal)
30. Waiting for client
31. Waiting for supplies

MASTER LIST 4 : SERVICE TYPE

Codes	Service Types
	Reproductive Health (RH) Services (10 – 23)
10.	Antenatal Care (ANC) - First visit
11.	Antenatal Care (ANC) - Revisit
12.	Normal Delivery
13.	Emergency Obstetrical Care (EOC) - without Cesarean
14.	Emergency Obstetrical Care (EOC) - Cesarean Section
15.	Postnatal Care (PNC) - First visit
16.	Postnatal Care (PNC) - Revisit
17.	Post Abortion Care (PAC)
18.	RTI/STI - New visit
19.	RTI/STI - Revisit
20.	Menstrual Disorders
21.	Infertility
22.	TT to non Pregnant Women
23.	TT to Pregnant Women
	Family Planning (FP) Services (24 – 40)
24.	Oral Pill - First visit
25.	Oral Pill - Revisit
26.	Condom - First visit
27.	Condom - Revisit
28.	Injectable - First visit
29.	Injectable - Revisit
30.	Intra Uterine Device (IUD) - First visit
31.	Intra Uterine Device (IUD) - follow up visit
32.	Intra Uterine Device (IUD) - Removal
33.	Norplant Implantation - First visit
34.	Norplant - follow up visit
35.	Norplant - Removal
36.	Tubectomy (Minilap)
37.	Vasectomy (NSV[1])
38.	Emergency Contraceptive Pill (ECP)
39.	FP Side-effect Management
40.	General Family Planning counseling
	Child Health Services (41 – 46)
41.	Acute Respiratory Infection (ARI)
42.	Control of Diarrhoeal Diseases (CDD)
43.	EPI and/or other vaccines
44.	Integrated Management of Childhood Illness (IMCI)
45.	Malnutrition
46.	Vitamin A Supplementation
	Limited Curative Care (LCC) [47 – 72)
47.	Anaemia
48.	Bronchial Asthma
49.	Diarrhoeal Diseases (Adult)
50.	Diabetics
51.	ENT Diseases (Tonsillitis, Laryngitis, Rhinitis, Sinusitis, Otitis Media/Externa etc.)
52.	Eye Diseases (Red eye, Conjunctivitis etc.)
53.	Fever (Non specific)
54.	Gastritis and Peptic Diseases
55.	General Weakness
56.	Headache
57.	Hepatitis/Hepatic Diseases
58.	Hypertension
59.	Intestinal Parasites

[1] NSV= Non Scalpel Vasectomy

Codes	Service Types
60.	Iodine Deficiency Diseases (IDD)
61.	Lower Respiratory Infection (Pneumonia, Bronchitis)
62.	Non specific Abdominal pain
63.	Laboratory test (for case detection only)
64.	Psycho-neurosis
65.	Sputum test
66.	Skin Diseases (Scabies, Impetigo, Abscess, fungal infection)
67.	Tumour
68.	Upper Respiratory Tract Infection (Common Cold, Sore Throat, Pharyngitis, etc.)
69.	Urinary Tract Infection
70.	Vertigo
71.	Vomiting
72.	Other (Specify)
	Medical/Surgical Emergency (73 – 90)
73.	Acute severe Asthma
74.	Burn
75.	Convulsion
76.	Diarrhoea with Sever Dehydration
77.	Drowning
78.	Eye Injury
79.	Foreign body Nose
80.	Foreign body Ear
81.	Foreign body Eye
82.	Fracture with or without wound
83.	Non-specific body ache/ joint pain
84.	Poisoning
85.	Severe Abdominal pain
86.	Shock/ Fainting attack
87.	Snakebite/ Insect bite
88.	Stroke
89.	Wound with bleeding
90.	Other (Specify)
	Communicable Diseases (91 – 96)
91.	Tuberculosis
92.	Leprosy
93.	Malaria
94.	Kalazar
95.	Filariasis
96.	Dengue

List of Participants of Delphi Workshop

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Ms. Sama Rani Roy	KAJUS	Town Kalikapur, Jubo Sangsad Sarak, Patuakhali
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Md. Jahirul Alam Azad	Fair Foundation	Sheeb Bari Road , Maheshwarpasha, Khulna
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Ms. Mridula chowdhury	SUS	NSDP SUS Office, C/o- Wahid Member, Vill- Sikder hat, Post Office Sultanpur, Raozan , Chittagong
Ms. Manju Rani Shaha	JTS	Village Pachuria, (Shari Munir Hossain's House) , Post Office Hat Pachuria, Thana Lohagora, Narail
Ms. Ismat Ara	Proshanti Hazi Bari	New Bus Stand, Maijdi Court, Noakhali
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Dr. Ashok Kumar Chowdhury	FDSR	C/O- Ismail Building, Rustom Hat, Batoli, Anowara, Chittagong
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